

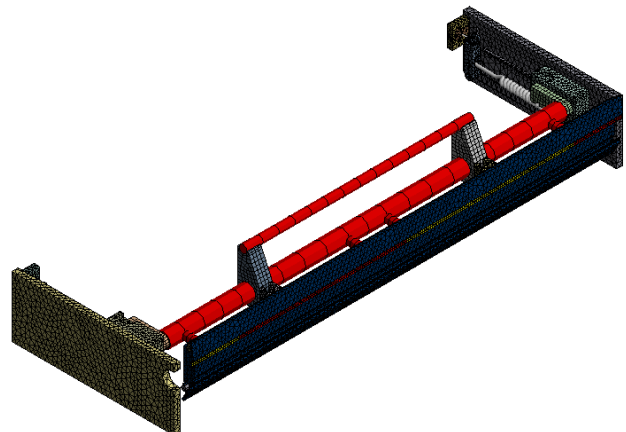
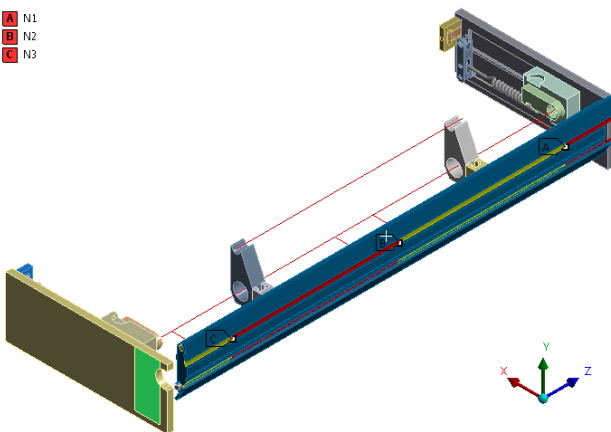
Příloha obrázků a grafů modální a harmonické analýzy

Varianta V0 – výchozí provedení SOMA engineering

Modální analýza

Strukturální model

A N1
B N2
C N3

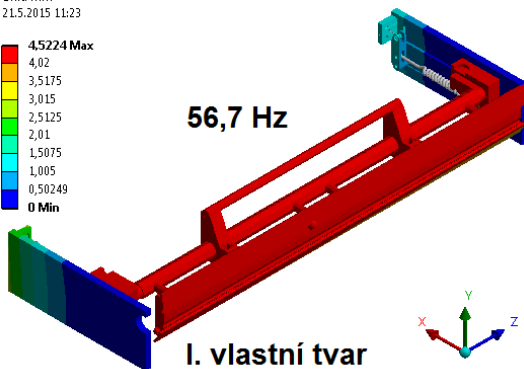


Vlastní tvary kmitu

C: Modal výchozí varianta_V0
Total Deformation
Type: Total Deformation
Frequency: 56,684 Hz
Unit: mm
21.5.2015 11:23

4,5224 Max
4,02
3,5175
3,015
2,5125
2,01
1,5075
1,005
0,50249
0 Min

56,7 Hz

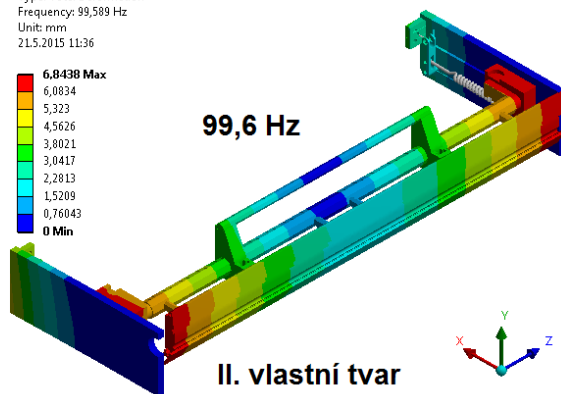


I. vlastní tvar

C: Modal výchozí varianta_V0
Total Deformation 2
Type: Total Deformation
Frequency: 99,589 Hz
Unit: mm
21.5.2015 11:36

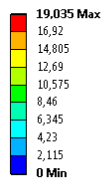
6,8438 Max
6,0834
5,323
4,5626
3,8021
3,0417
2,2813
1,5209
0,76043
0 Min

99,6 Hz

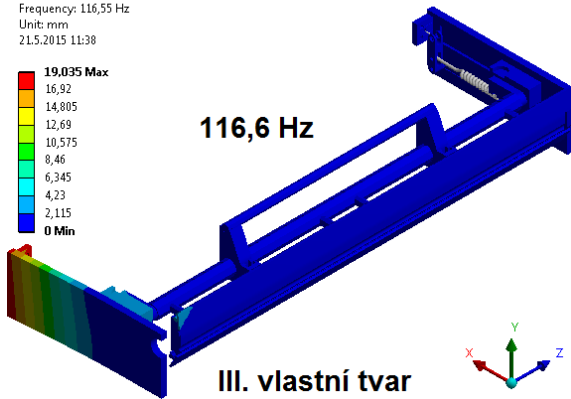


II. vlastní tvar

C: Modal výchozí varianta_V0
Total Deformation 3
Type: Total Deformation
Frequency: 116,55 Hz
Unit: mm
21.5.2015 11:38

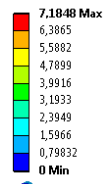


116,6 Hz

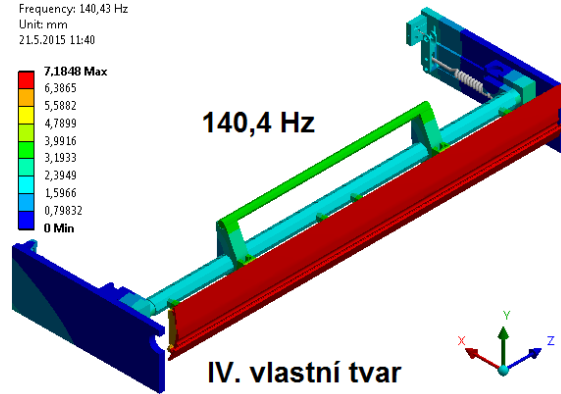


III. vlastní tvar

C: Modal výchozí varianta_V0
Total Deformation 4
Type: Total Deformation
Frequency: 140,43 Hz
Unit: mm
21.5.2015 11:40

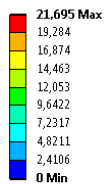


140,4 Hz

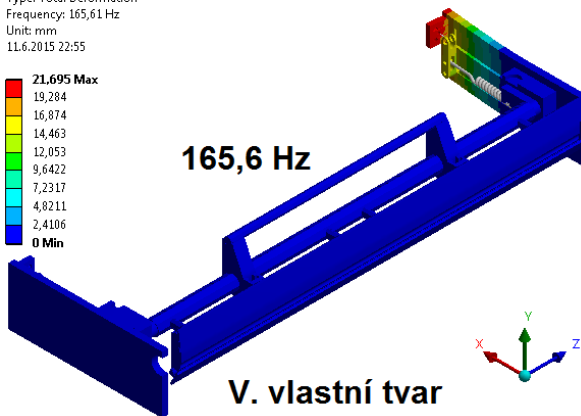


IV. vlastní tvar

C: Modal výchozí varianta_V0
Total Deformation 5
Type: Total Deformation
Frequency: 165,61 Hz
Unit: mm
11.6.2015 22:55

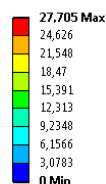


165,6 Hz

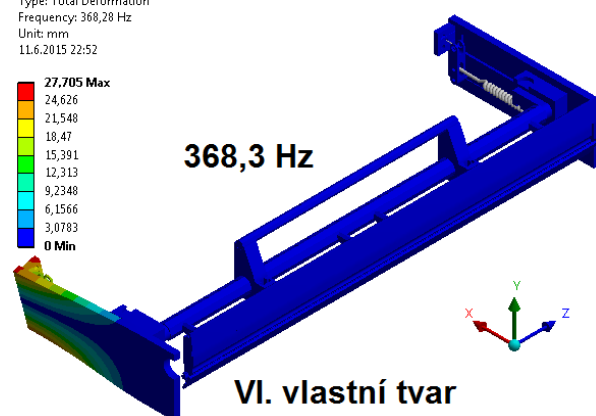


V. vlastní tvar

C: Modal výchozí varianta_V0
Total Deformation 6
Type: Total Deformation
Frequency: 368,28 Hz
Unit: mm
11.6.2015 22:52

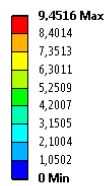


368,3 Hz

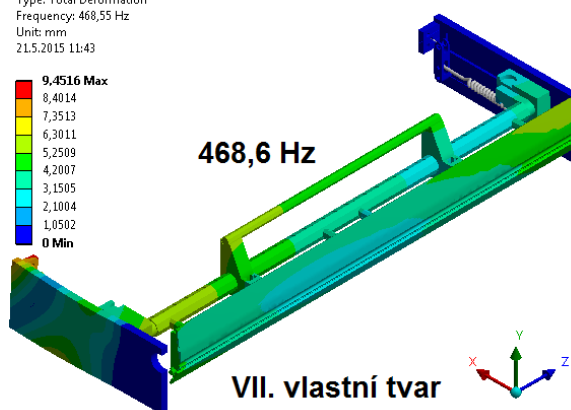


VI. vlastní tvar

C: Modal výchozí varianta_V0
Total Deformation 7
Type: Total Deformation
Frequency: 468,55 Hz
Unit: mm
21.5.2015 11:43

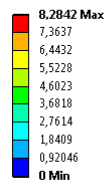


468,6 Hz

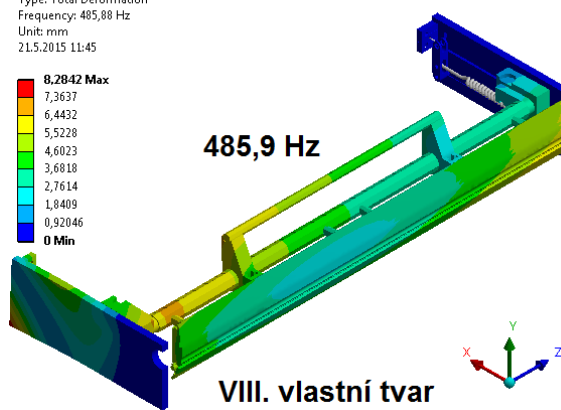


VII. vlastní tvar

C: Modal výchozí varianta_V0
Total Deformation 8
Type: Total Deformation
Frequency: 485,88 Hz
Unit: mm
21.5.2015 11:45

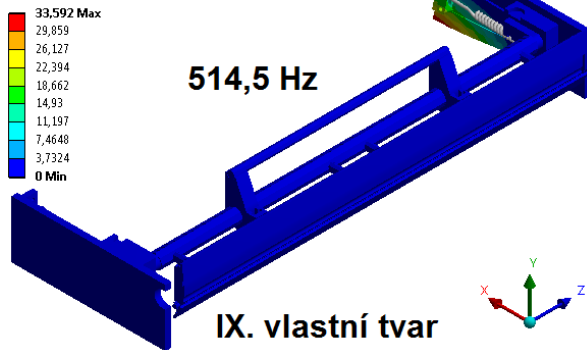


485,9 Hz

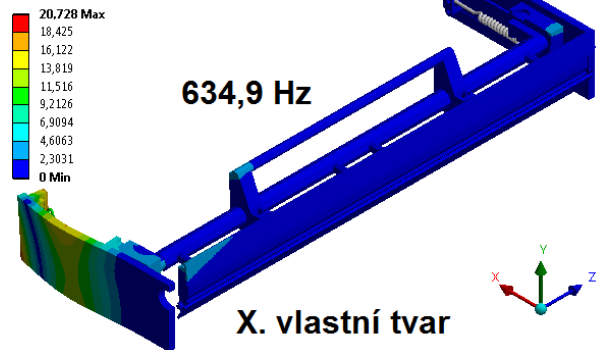


VIII. vlastní tvar

C: Modal výchozí varianta_V0
Total Deformation 9
Type: Total Deformation
Frequency: 514,52 Hz
Unit: mm
11.6.2015 22:57



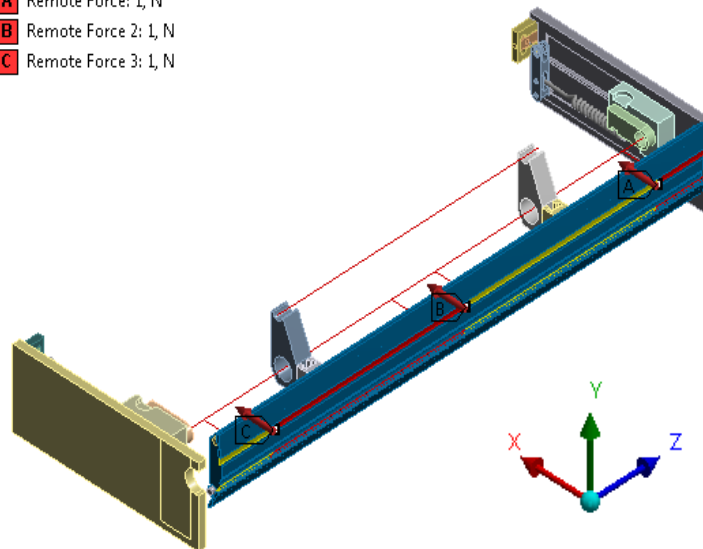
C: Modal výchozí varianta_V0
Total Deformation 10
Type: Total Deformation
Frequency: 634,91 Hz
Unit: mm
11.6.2015 22:59



Statická analýza – zatížení raklového nože jednotkovou silou

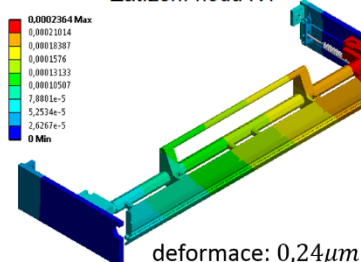
B: Static Structural v0
Remote Force 3
Time: 1, s
11.6.2015 23:03

- A** Remote Force: 1, N
- B** Remote Force 2: 1, N
- C** Remote Force 3: 1, N

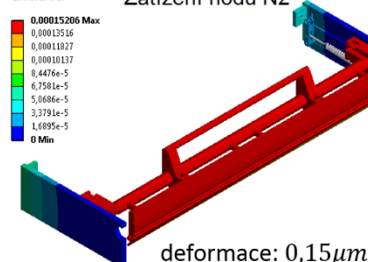


Statická analýza – postupné zatěžování nodů jednotkovou silou 1N

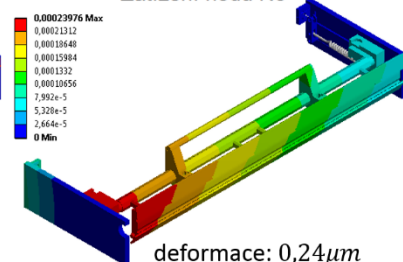
B: Static Structural v0
Total Deformation
Type: Total Deformation
Unit: mm
Time: 1
12.6.2015 16:32



B: Static Structural v0
Total Deformation
Type: Total Deformation
Unit: mm
Time: 1
12.6.2015 0:16



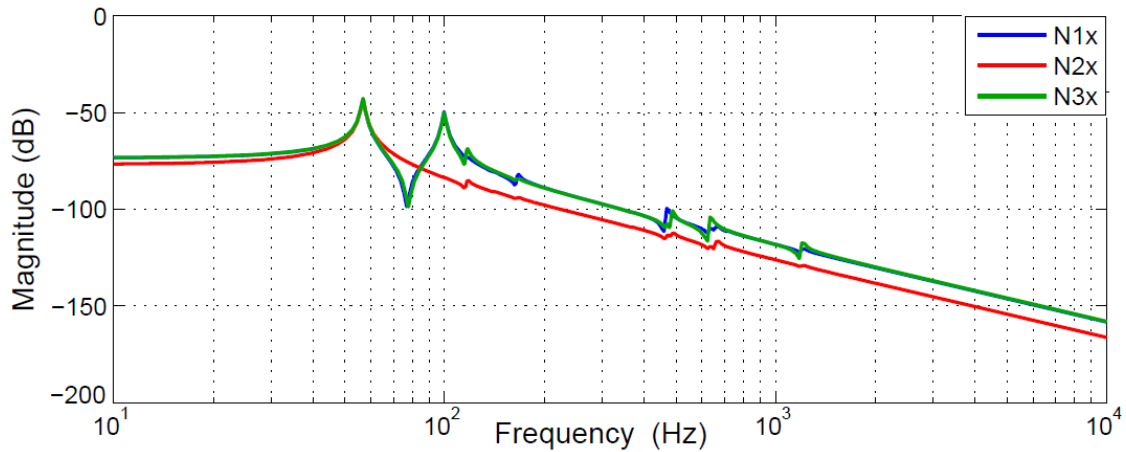
B: Static Structural v0
Total Deformation
Type: Total Deformation
Unit: mm
Time: 1
11.6.2015 23:56



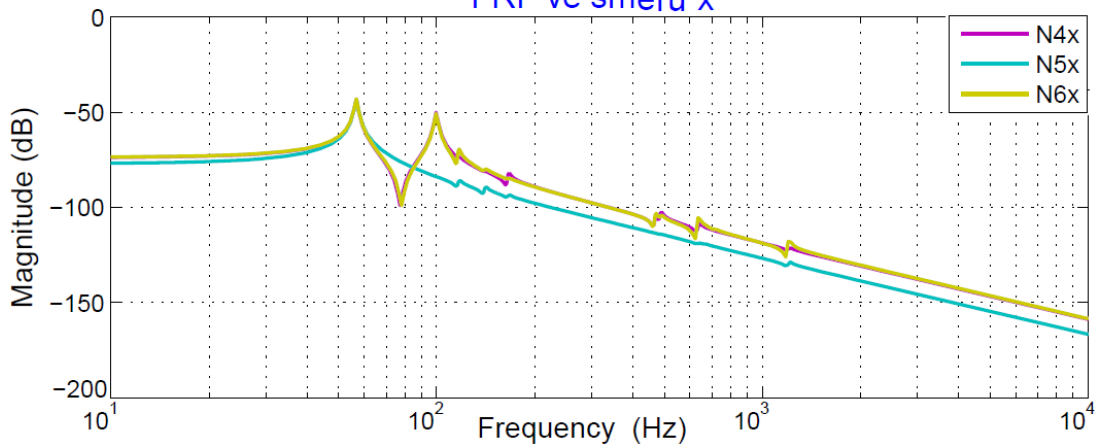
Harmonická analýza

Frekvenční přenosové funkce

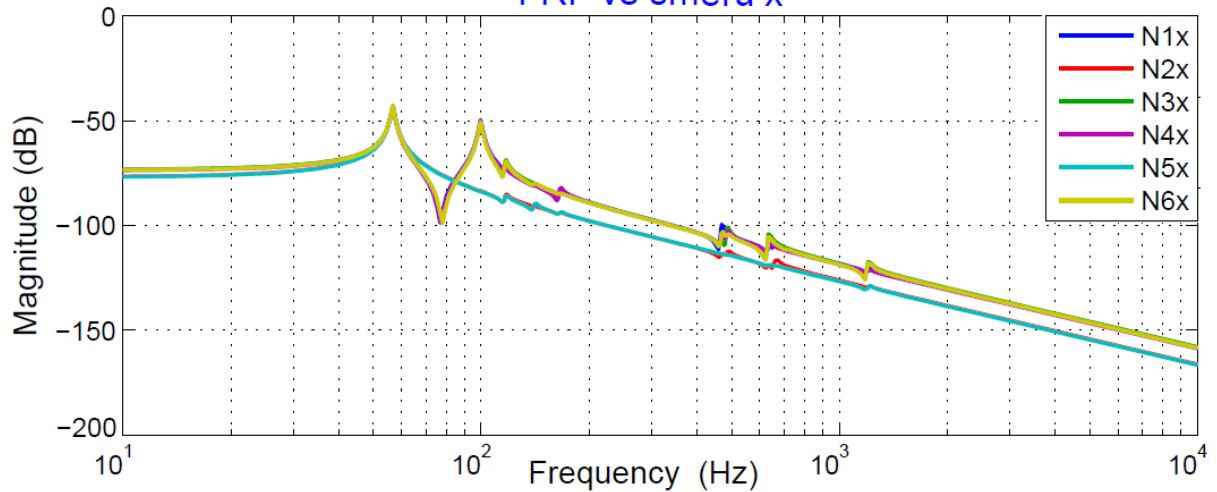
Výchozí varianta – provedení SOMA
FRF ve směru x



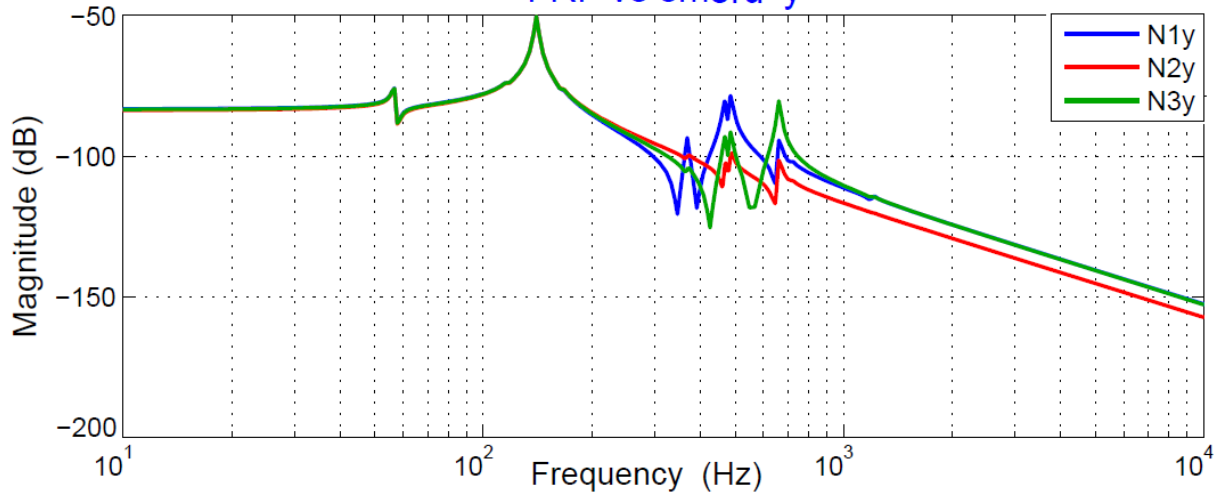
Výchozí varianta – provedení SOMA
FRF ve směru x



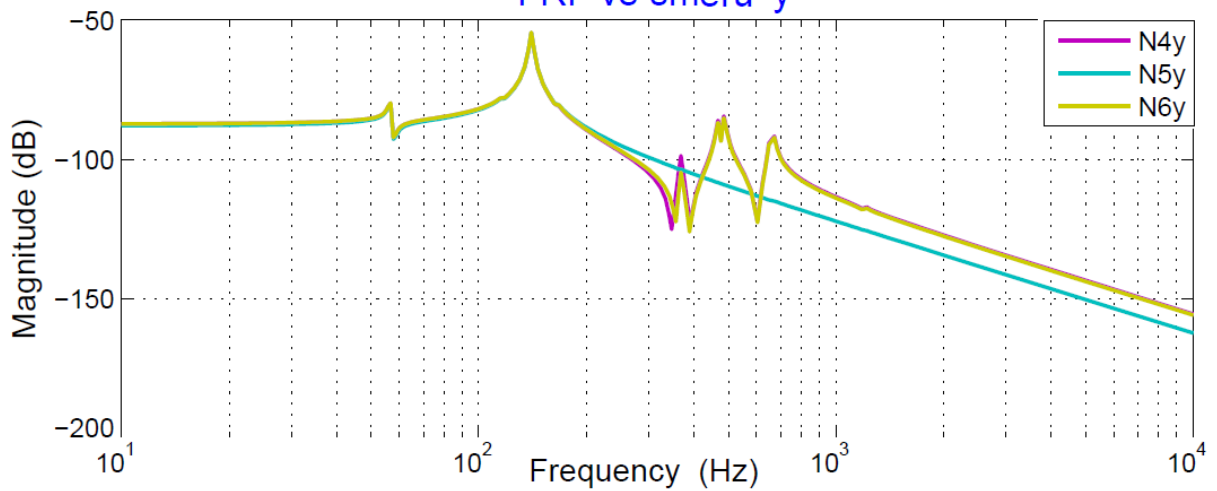
Výchozí varianta – provedení SOMA
FRF ve směru x



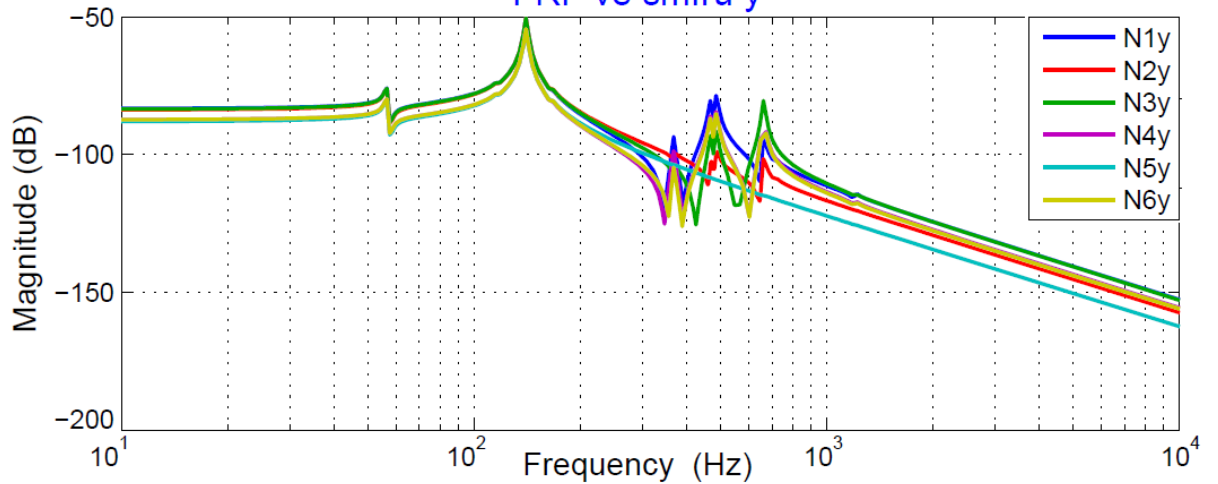
Výchozí varianta–provedení SOMA
FRF ve směru y



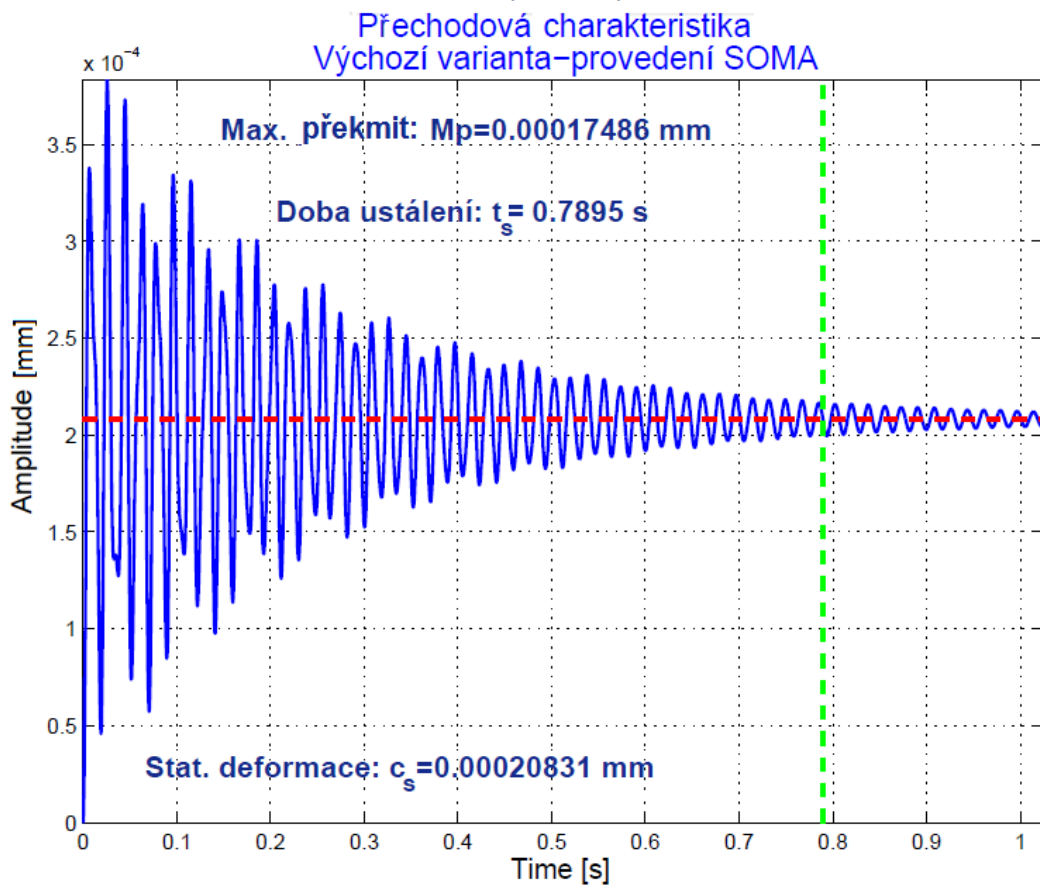
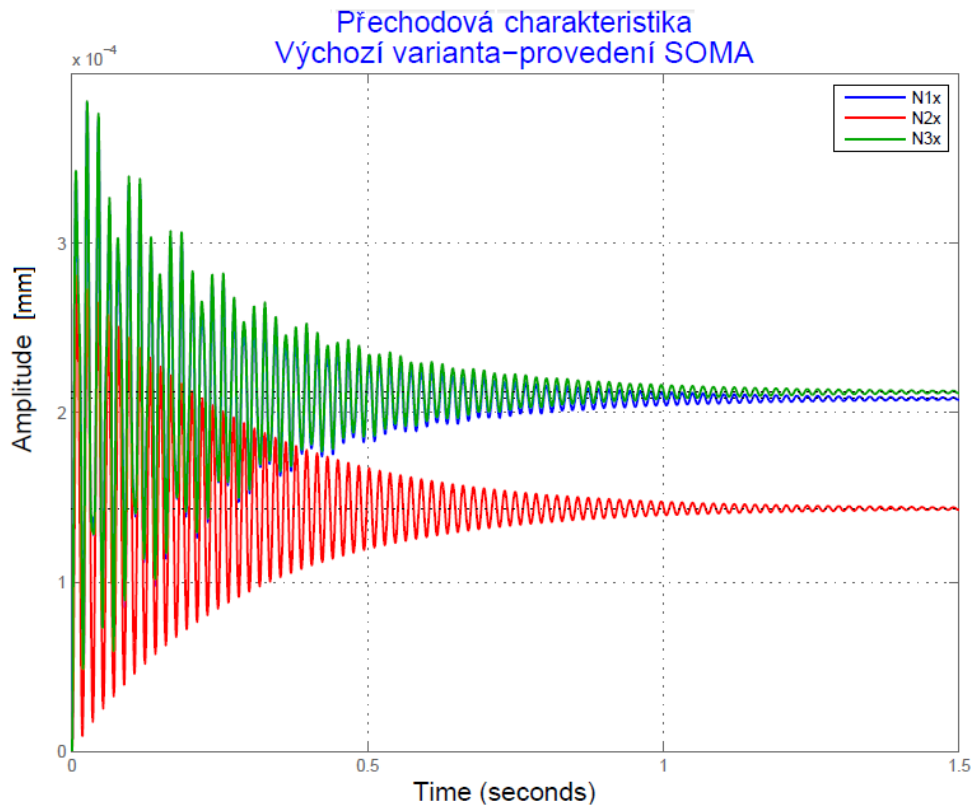
Výchozí varianta–provedení SOMA
FRF ve směru y



Výchozí varianta–provedení SOMA
FRF ve směru y



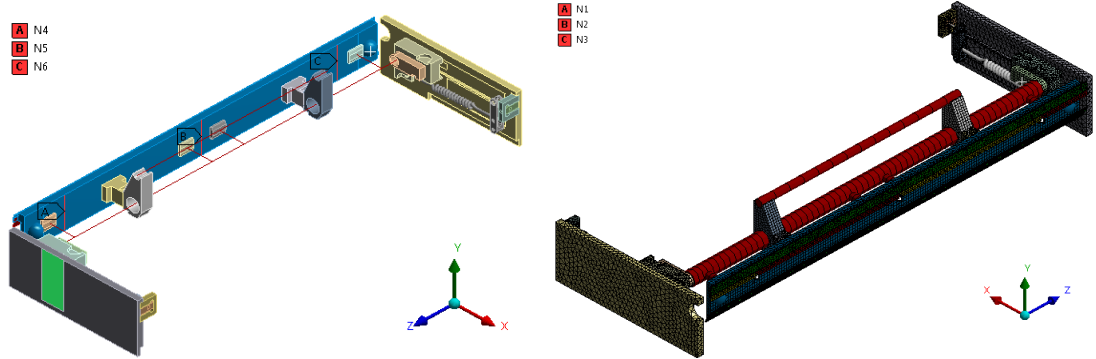
Přechodová charakteristika



Varianta V1 – odlehčení raklové komory

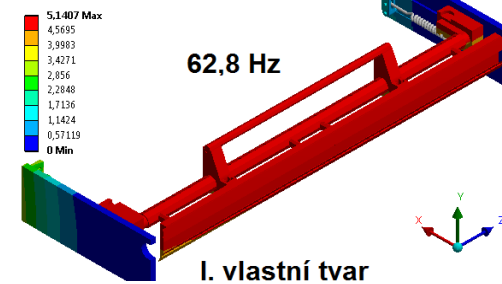
Modální analýza

Strukturální model

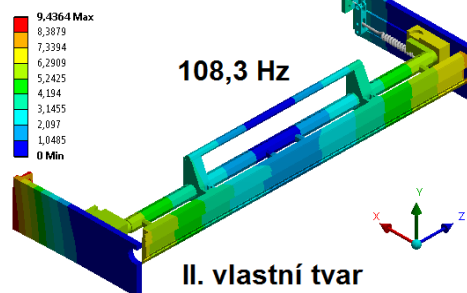


Vlastní tvary kmitu

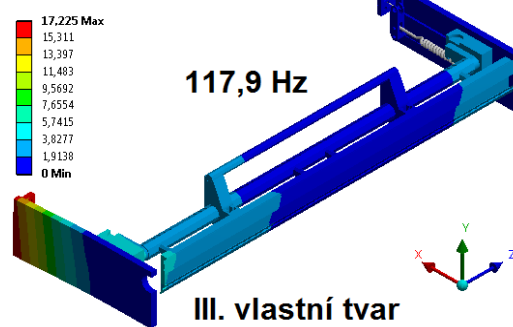
E Vyřchozí varianta s novou odlehčenou RK_V1
Total Deformation
Type: Total Deformation
Frequency: 62,764 Hz
Unit: mm
13.6.2015 10:26



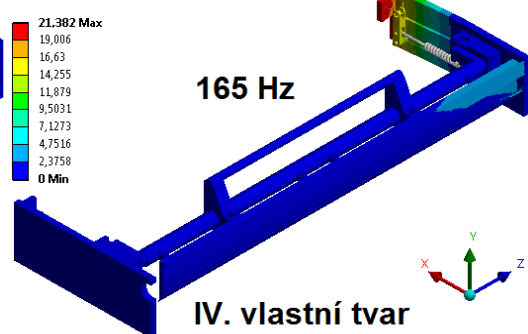
E Vyřchozí varianta s novou odlehčenou RK_V1
Total Deformation 2
Type: Total Deformation
Frequency: 108,32 Hz
Unit: mm
13.6.2015 10:35



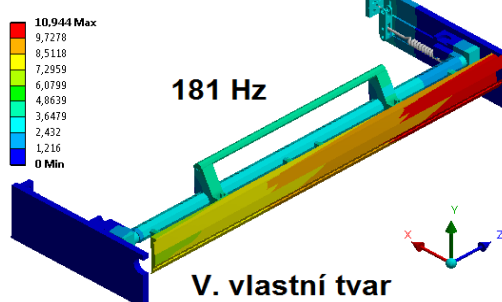
E Vyřchozí varianta s novou odlehčenou RK_V1
Total Deformation 3
Type: Total Deformation
Frequency: 117,9 Hz
Unit: mm
13.6.2015 10:38



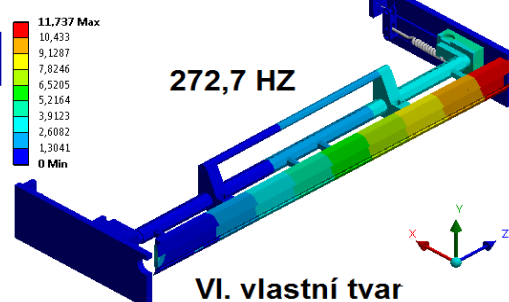
E Vyřchozí varianta s novou odlehčenou RK_V1
Total Deformation 4
Type: Total Deformation
Frequency: 165, Hz
Unit: mm
13.6.2015 10:39



E Vyřchozí varianta s novou odlehčenou RK_V1
Total Deformation 5
Type: Total Deformation
Frequency: 181,02 Hz
Unit: mm
13.6.2015 10:40



E Vyřchozí varianta s novou odlehčenou RK_V1
Total Deformation 6
Type: Total Deformation
Frequency: 272,7 Hz
Unit: mm
13.6.2015 10:42

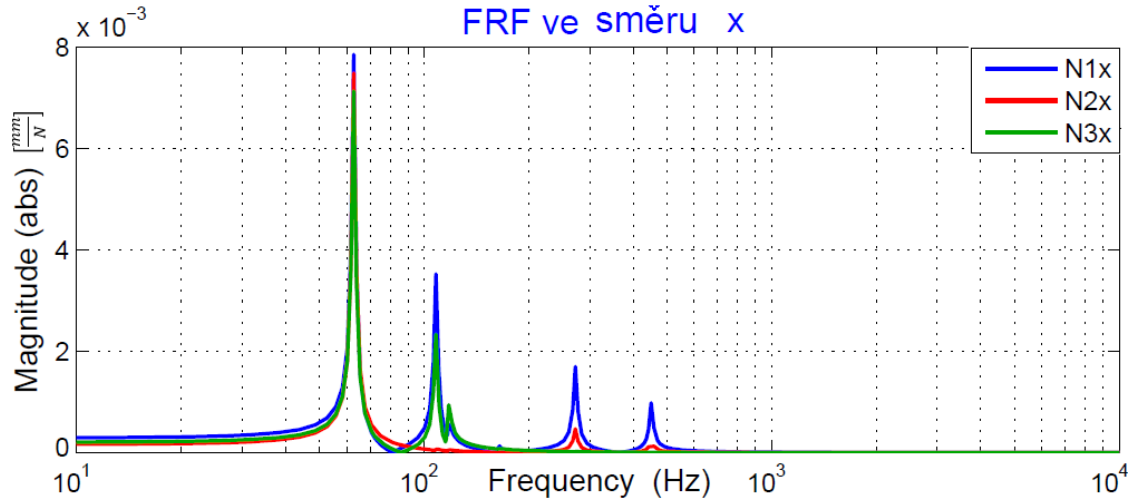


Harmonická analýza

Frekvenční přenosové funkce

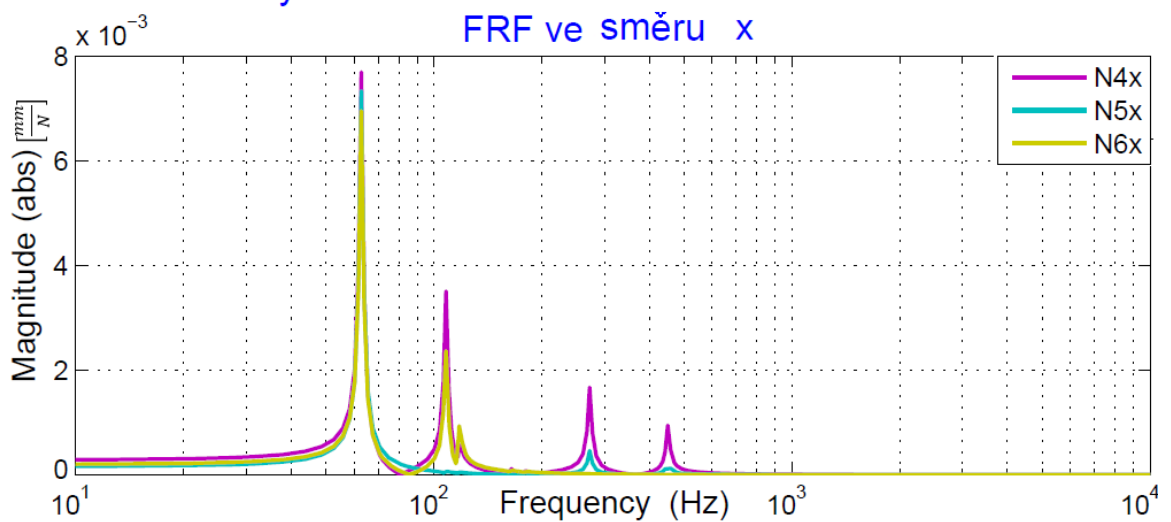
Výchozí varianta s novou odlehčenou RK

FRF ve směru x



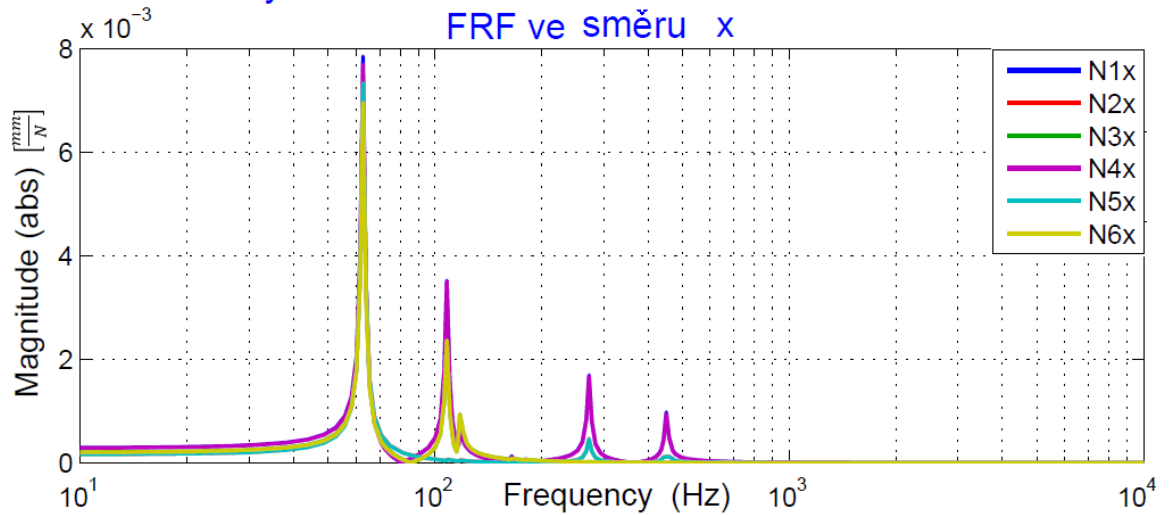
Výchozí varianta s novou odlehčenou RK

FRF ve směru x

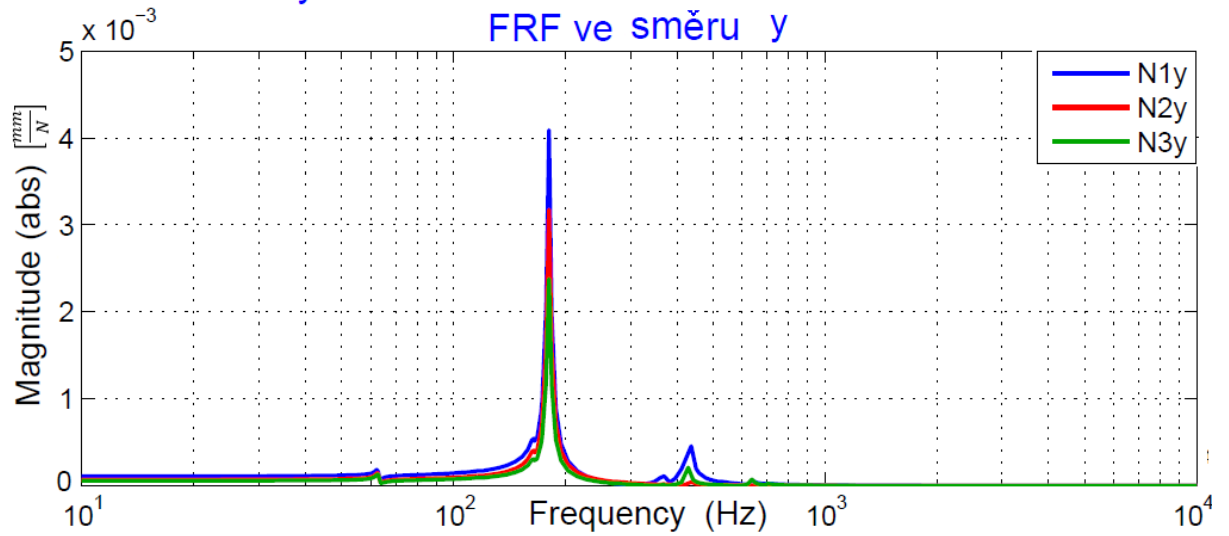


Výchozí varianta s novou odlehčenou RK

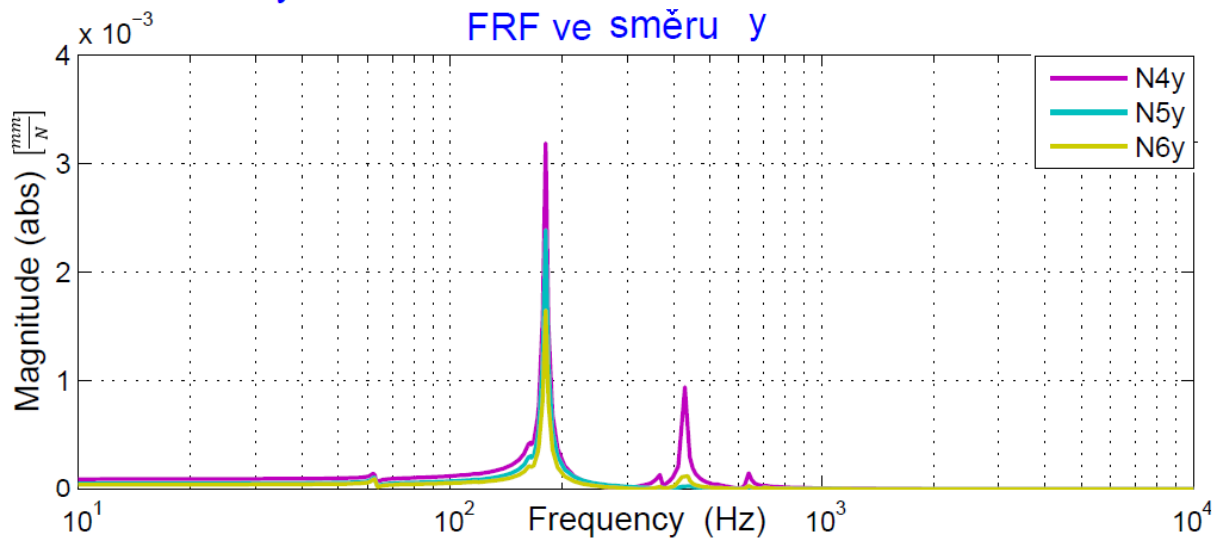
FRF ve směru x



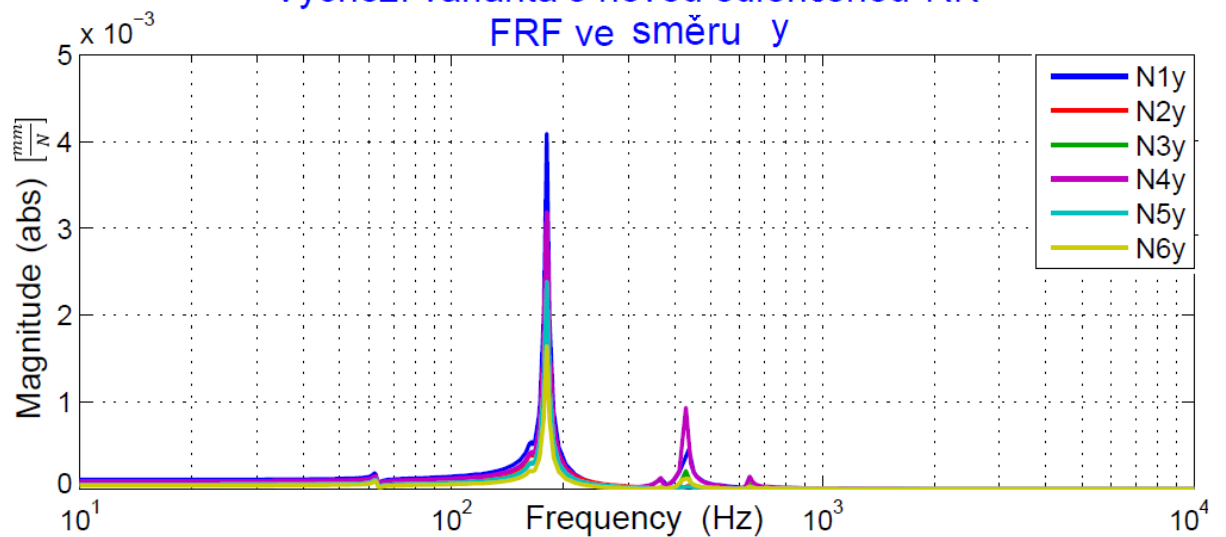
Výchozí varianta s novou odlehčenou RK
FRF ve směru y



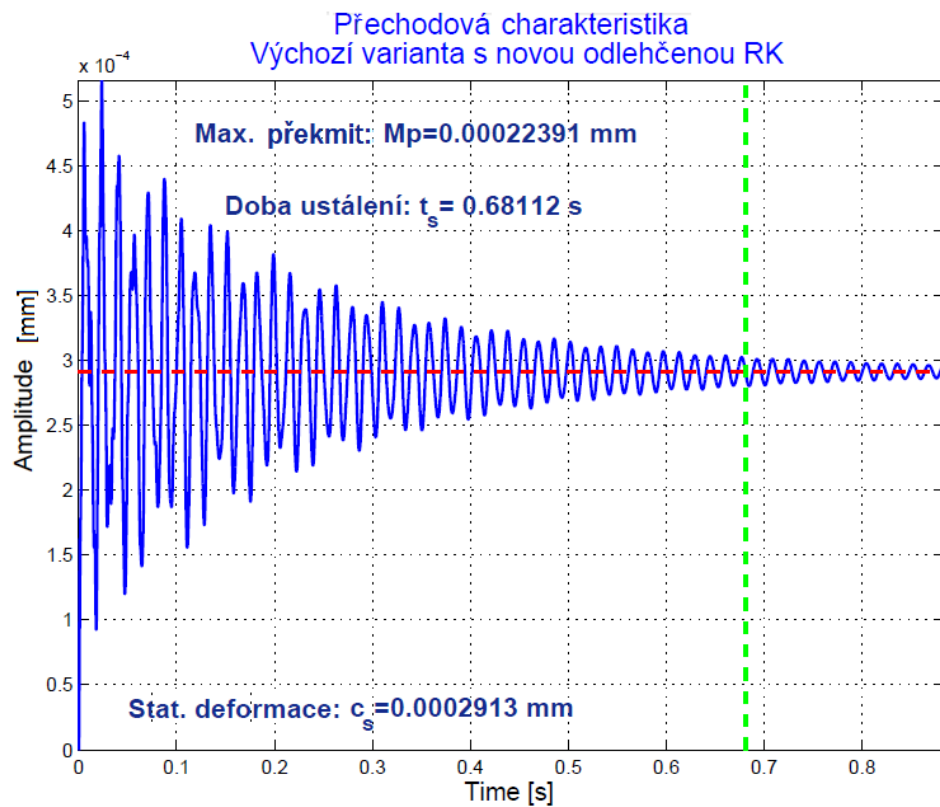
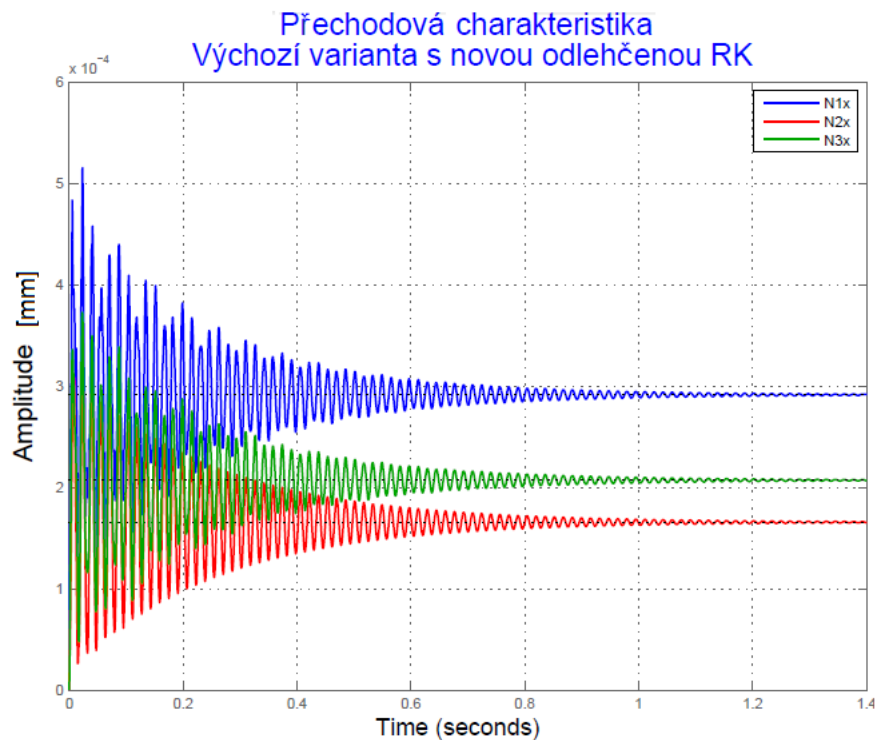
Výchozí varianta s novou odlehčenou RK
FRF ve směru y



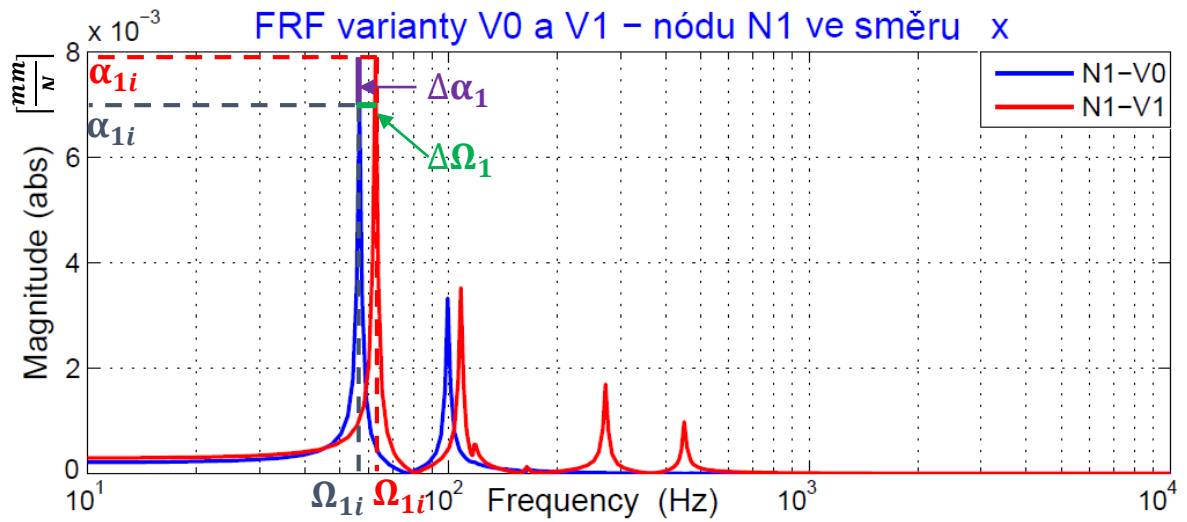
Výchozí varianta s novou odlehčenou RK
FRF ve směru y



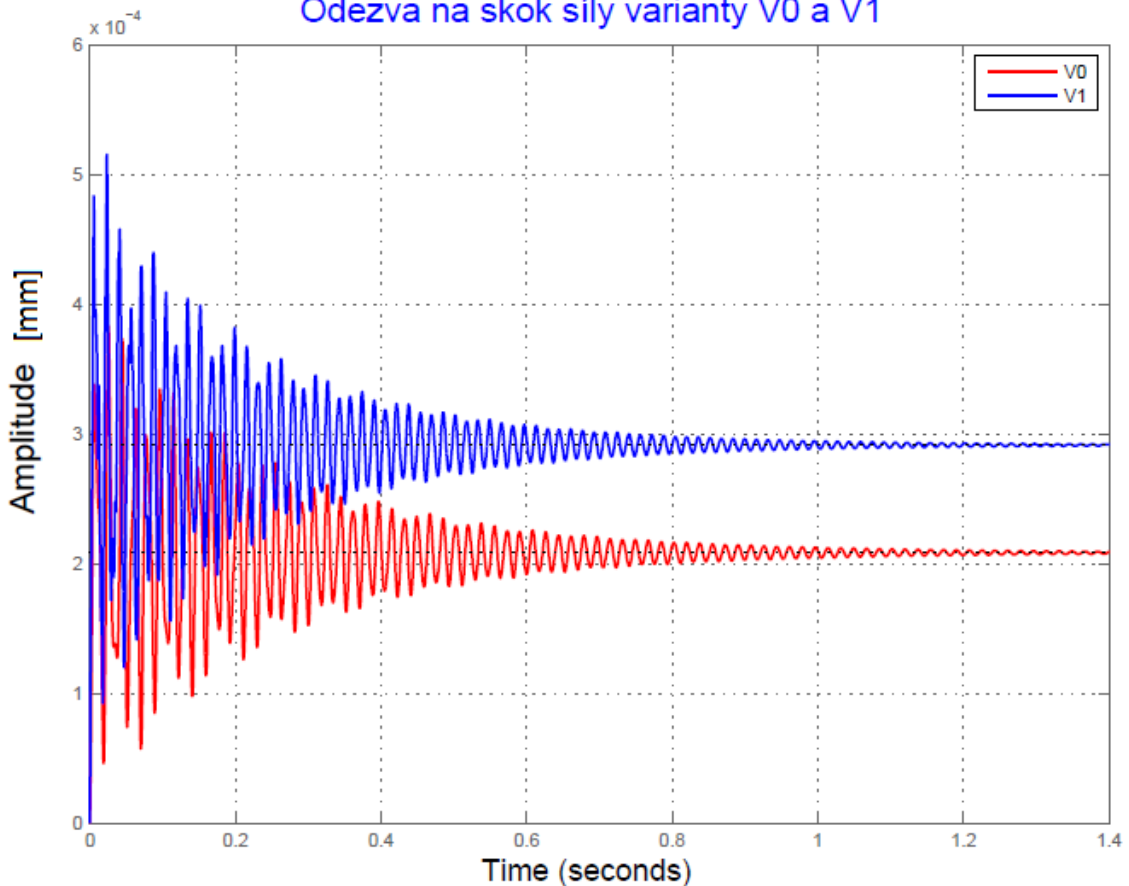
Přechodová charakteristika



Porovnání s původní variantou V0



Odezva na skok síly varianty V0 a V1



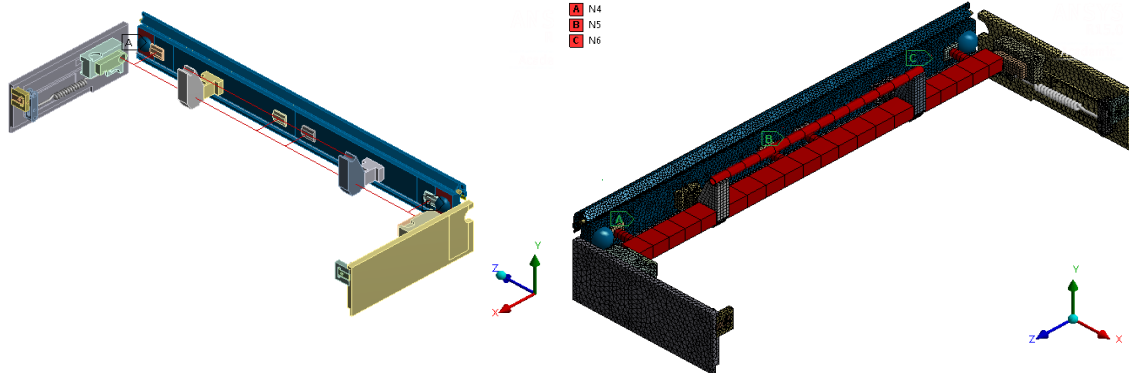
Varianta	Ω_{1i} [Hz]	$\Delta\Omega_i$ [%]	α_{1i} $\left[\frac{\mu\text{m}}{\text{N}}\right]$	$\Delta\alpha_i$ [%]	c_{si} $\left[\frac{\mu\text{m}}{\text{N}}\right]$	Δc_{si} [%]	t_s [s]
V0	56,7	-	7	-	0,21	-	0,79
V1	62,8	10,76 \oplus	7,85	12,1 \ominus	0,29	38,1	0,68

Pozn.: \oplus vyjadřuje kladný pozitivní přínos pro dynamické vlastnosti soustavy a \ominus vyjadřuje naopak záporný negativní vliv na dynamické vlastnosti

Varianta V2 – tužší nosník obdélníkového průřezu

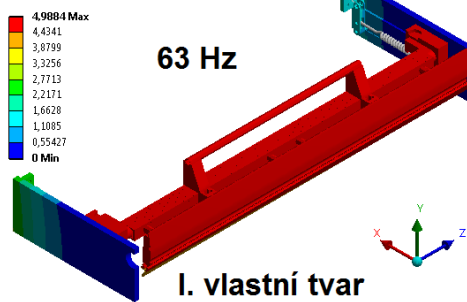
Modální analýza

Strukturální model

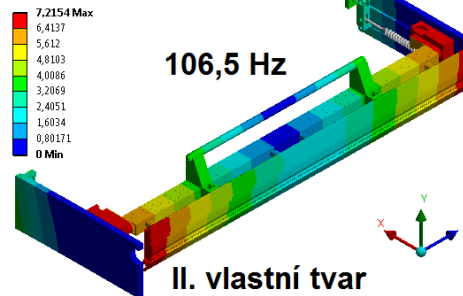


Vlastní tvary kmitu

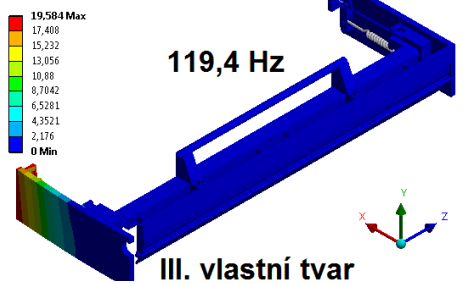
M: Vychodi varianta_čtvercový nosník_V2
Total Deformation
Type: Total Deformation
Frequency: 62,988 Hz
Unit: mm
13.6.2015 17:02



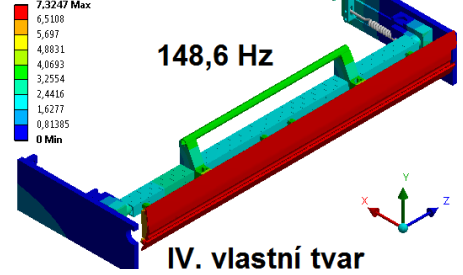
M: Vychodi varianta_čtvercový nosník_V2
Total Deformation 2
Type: Total Deformation
Frequency: 106,46 Hz
Unit: mm
13.6.2015 17:04



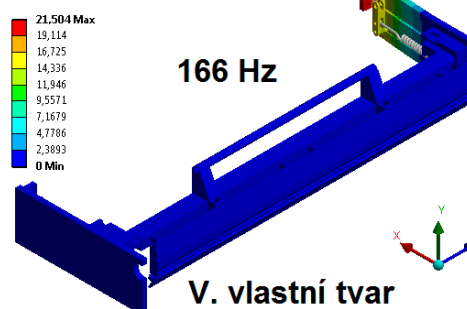
M: Vychodi varianta_čtvercový nosník_V2
Total Deformation 3
Type: Total Deformation
Frequency: 119,35 Hz
Unit: mm
13.6.2015 17:05



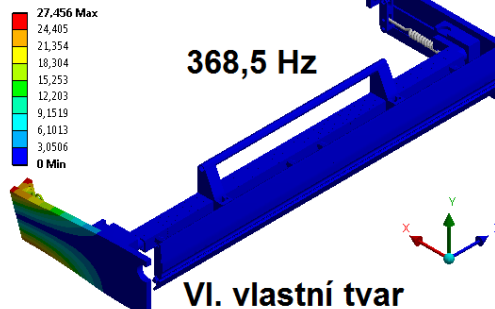
M: Vychodi varianta_čtvercový nosník_V2
Total Deformation 4
Type: Total Deformation
Frequency: 148,58 Hz
Unit: mm
13.6.2015 17:06



M: Vychodi varianta_čtvercový nosník_V2
Total Deformation 5
Type: Total Deformation
Frequency: 165,98 Hz
Unit: mm
13.6.2015 17:08



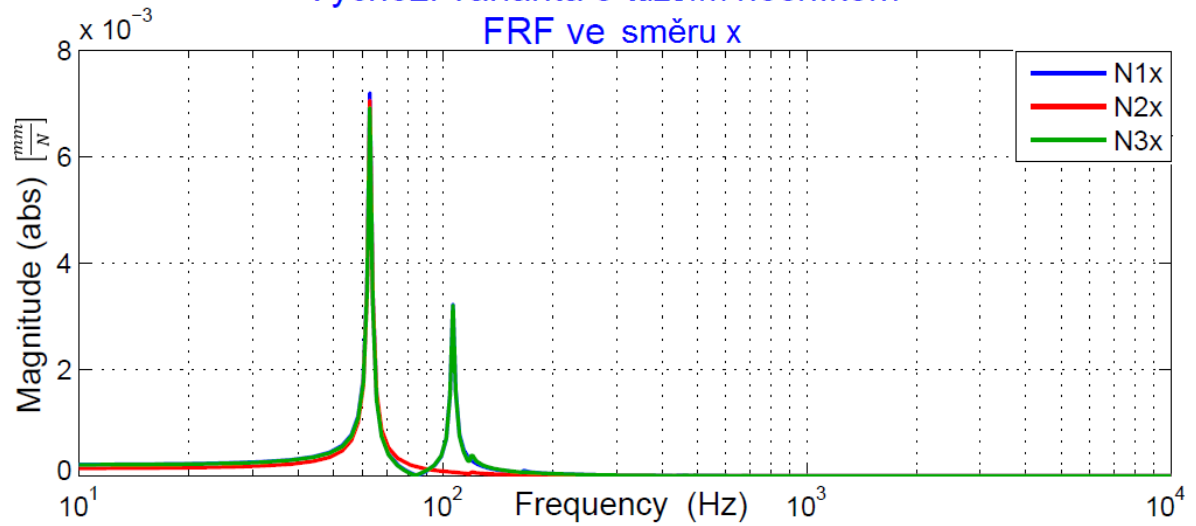
M: Vychodi varianta_čtvercový nosník_V2
Total Deformation 6
Type: Total Deformation
Frequency: 368,54 Hz
Unit: mm
13.6.2015 17:09



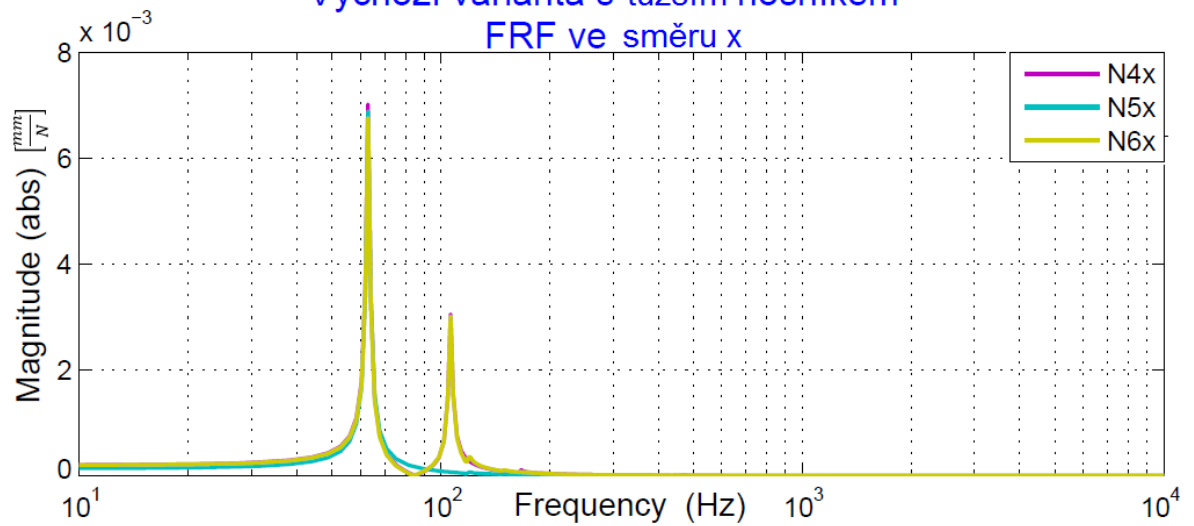
Harmonická analýza

Frekvenční přenosové funkce

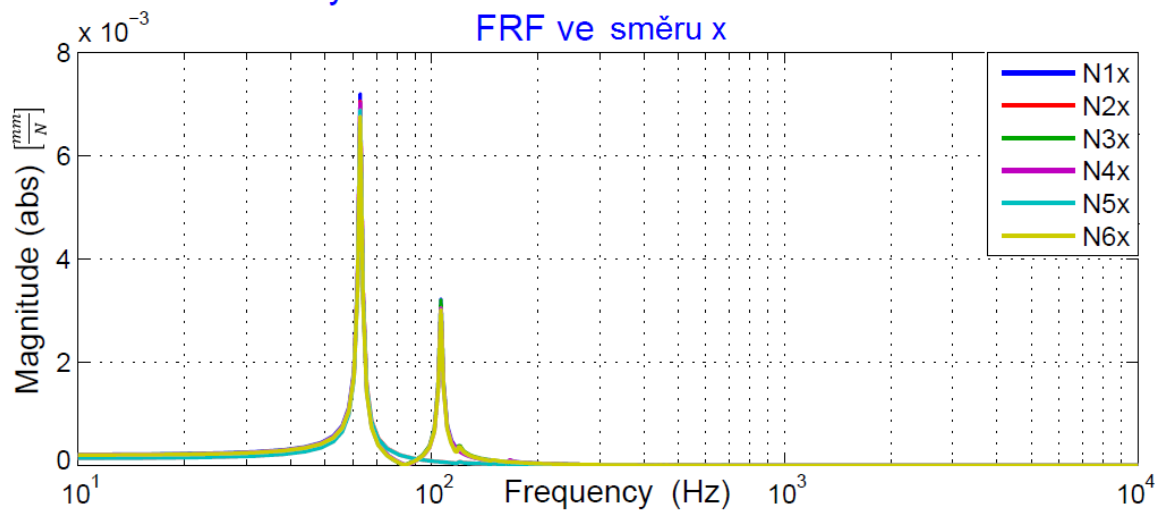
Výchozí varianta s tužším nosníkem
FRF ve směru x



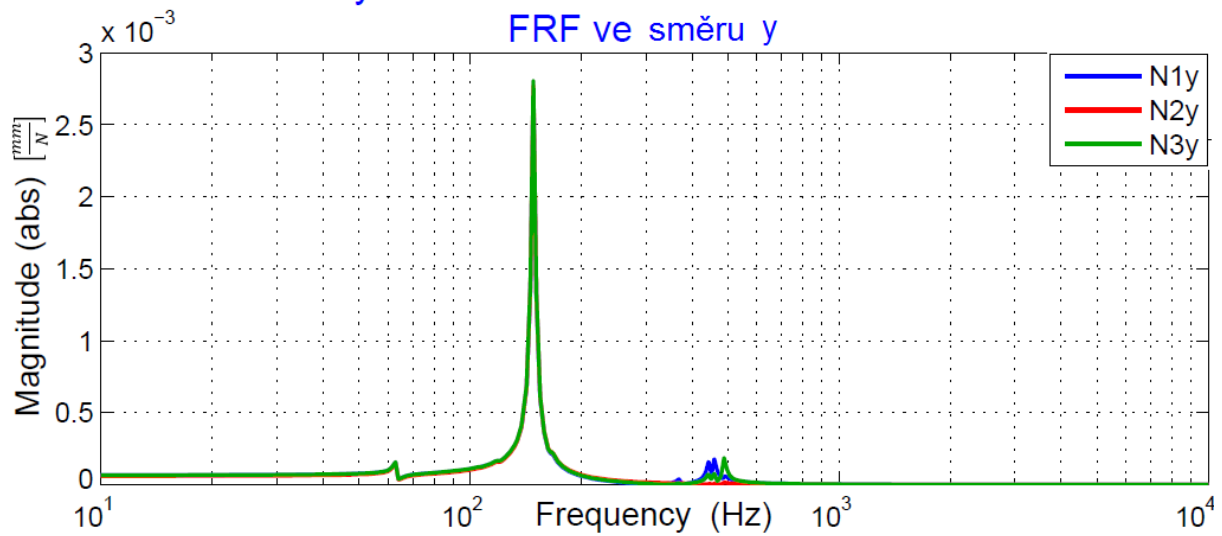
Výchozí varianta s tužším nosníkem
FRF ve směru x



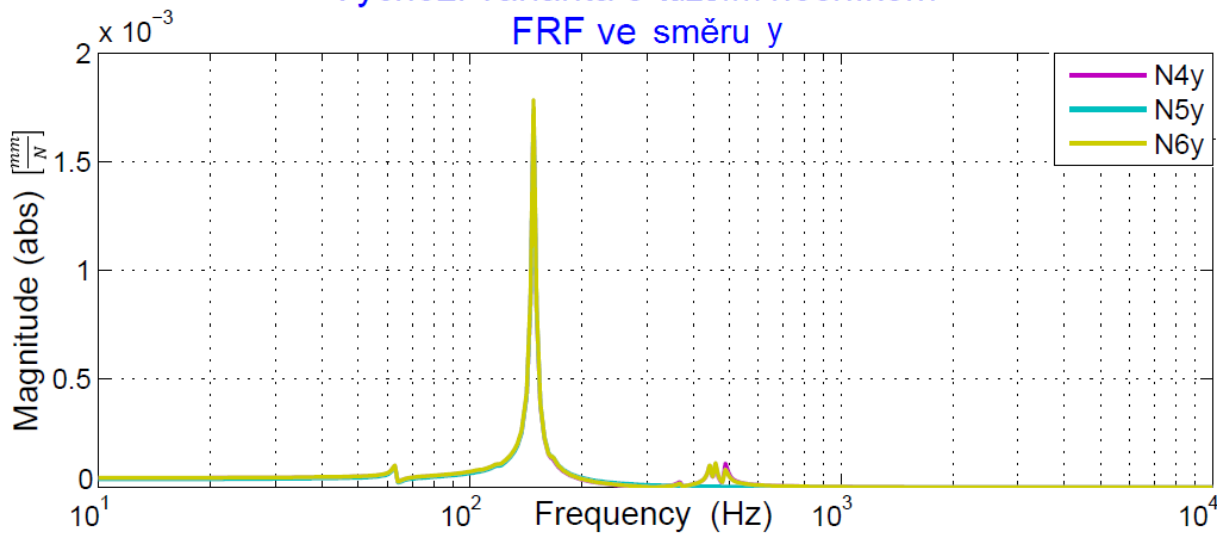
Výchozí varianta s tužším nosníkem
FRF ve směru x



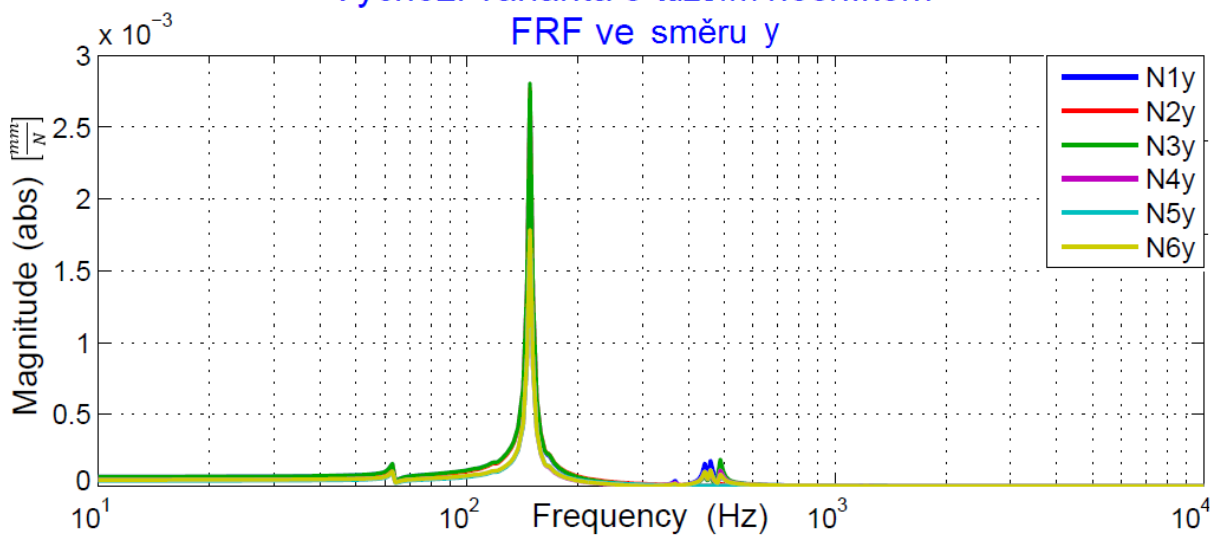
Výchozí varianta s tužším nosníkem
FRF ve směru y



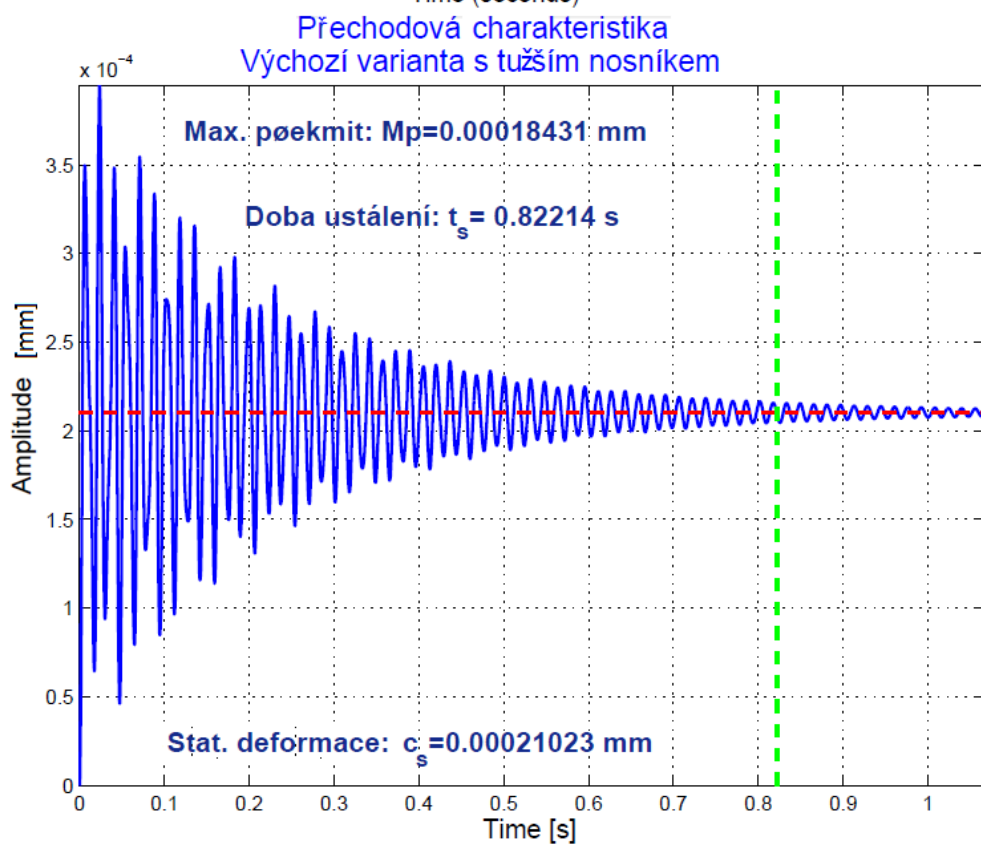
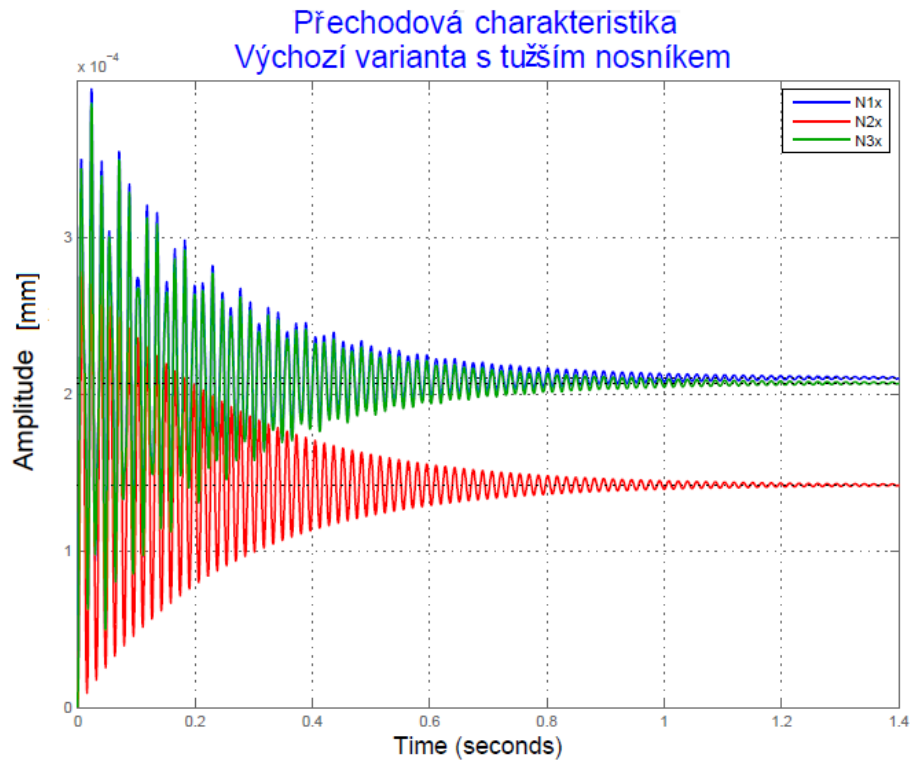
Výchozí varianta s tužším nosníkem
FRF ve směru y



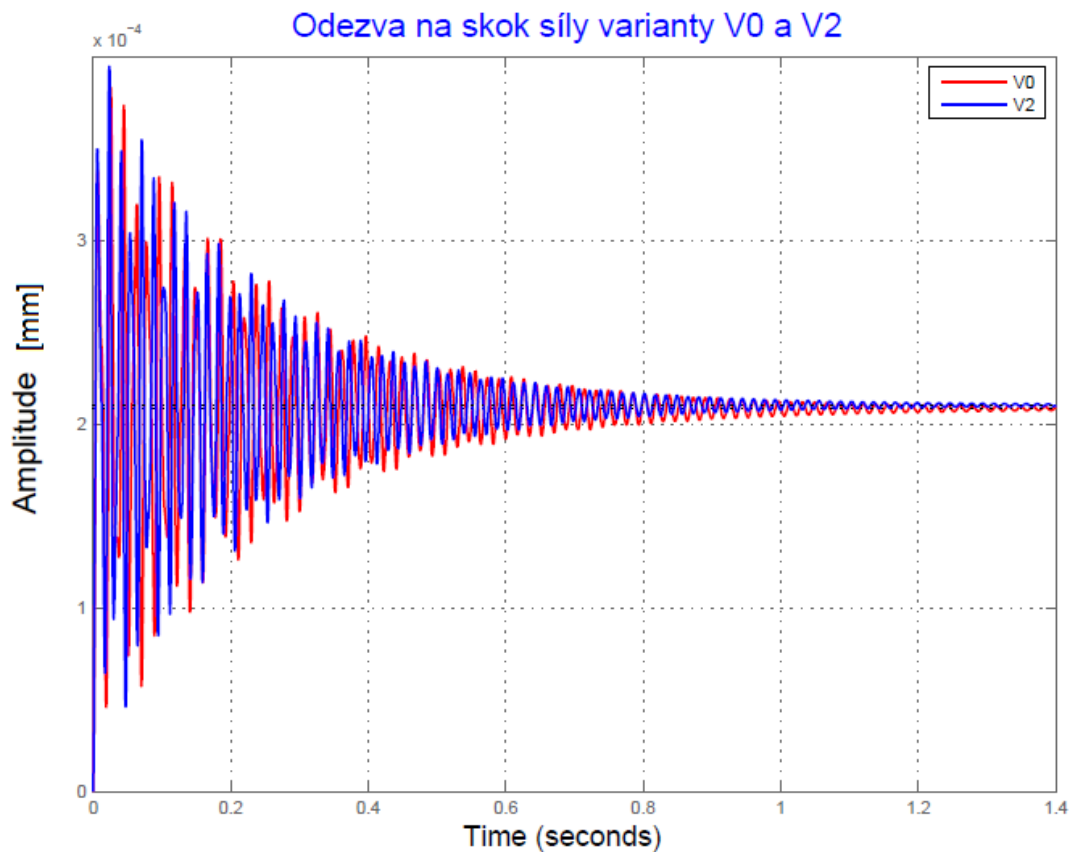
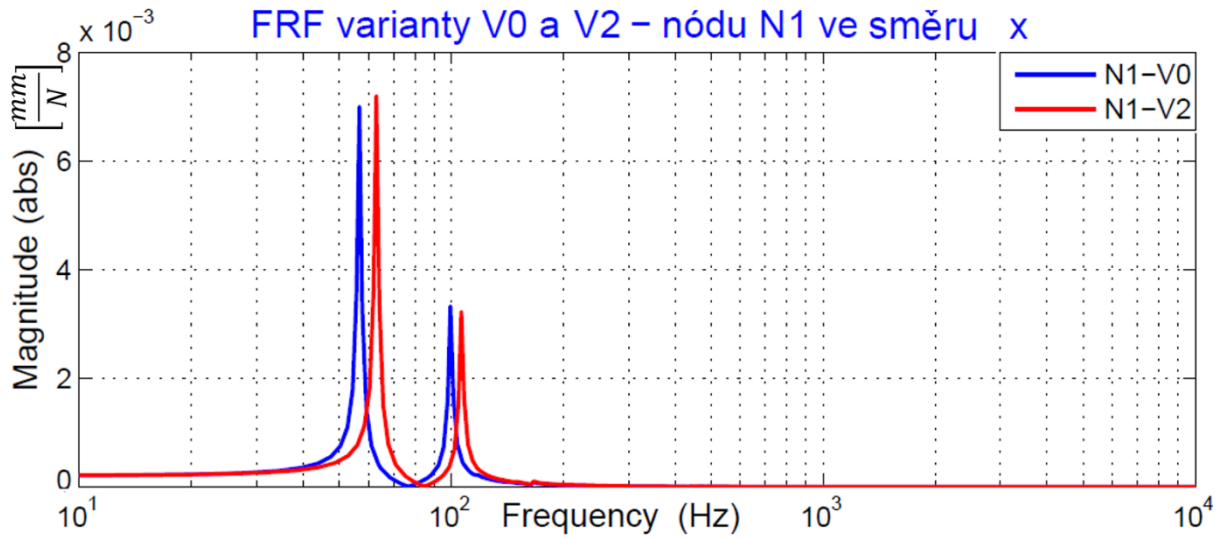
Výchozí varianta s tužším nosníkem
FRF ve směru y



Přechodová charakteristika



Porovnání s původní variantou V0

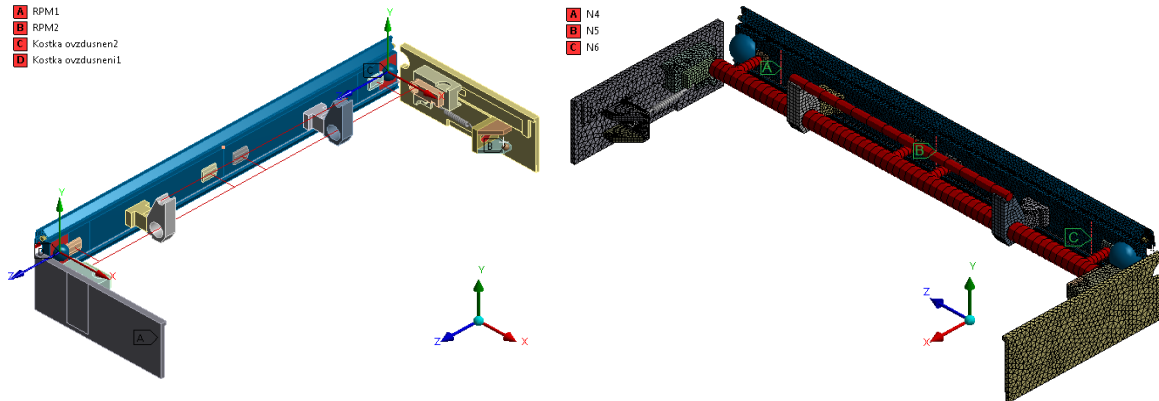


Varianta	Ω_{1i} [Hz]	$\Delta\Omega_i$ [%]	α_{1i} $\left[\frac{\mu\text{m}}{\text{N}}\right]$	$\Delta\alpha_i$ [%]	c_{si} $\left[\frac{\mu\text{m}}{\text{N}}\right]$	Δc_{si} [%]	t_s [s]
V0	56,7	-	7	-	0,21	-	0,79
V2	63	11,1 \oplus	7,19	2,7 \ominus	0,21	0 \ominus	0,82

Varianta 3A - rotační pneumotor s trapézovým šroubem

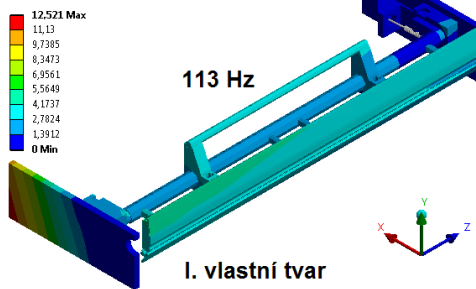
Modální analýza

Strukturální model

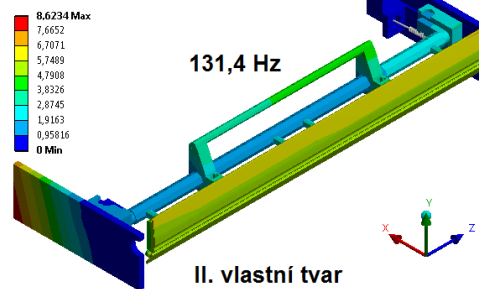


Vlastní tvary kmitu

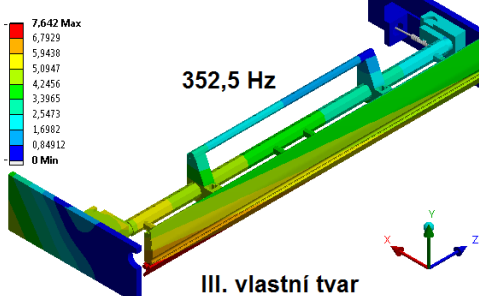
E:RPM a trapézový šroub s výchozí variantou_V4
Total Deformation
Type: Total Deformation
Frequency: 113,05 Hz
Unit: mm
30.5.2015 13:53



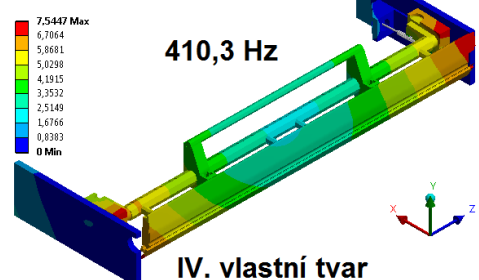
E:RPM a trapézový šroub s výchozí variantou_V4
Total Deformation 2
Type: Total Deformation
Frequency: 131,39 Hz
Unit: mm
30.5.2015 13:52



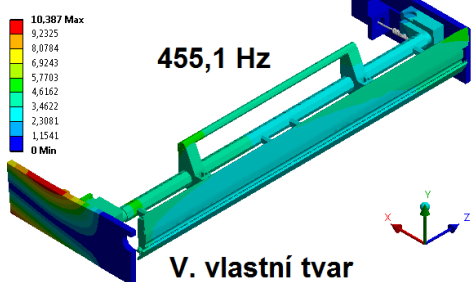
E:RPM a trapézový šroub s výchozí variantou_V4
Total Deformation 3
Type: Total Deformation
Frequency: 352,53 Hz
Unit: mm
30.5.2015 13:50



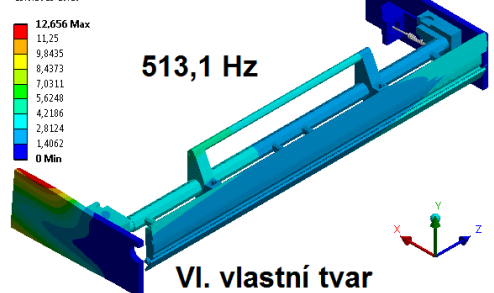
J:RPM a trapézový šroub s výchozí variantou_V3A
Total Deformation 4
Type: Total Deformation
Frequency: 410,29 Hz
Unit: mm
13.6.2015 18:15



J:RPM a trapézový šroub s výchozí variantou_V3A
Total Deformation 5
Type: Total Deformation
Frequency: 455,14 Hz
Unit: mm
13.6.2015 18:16



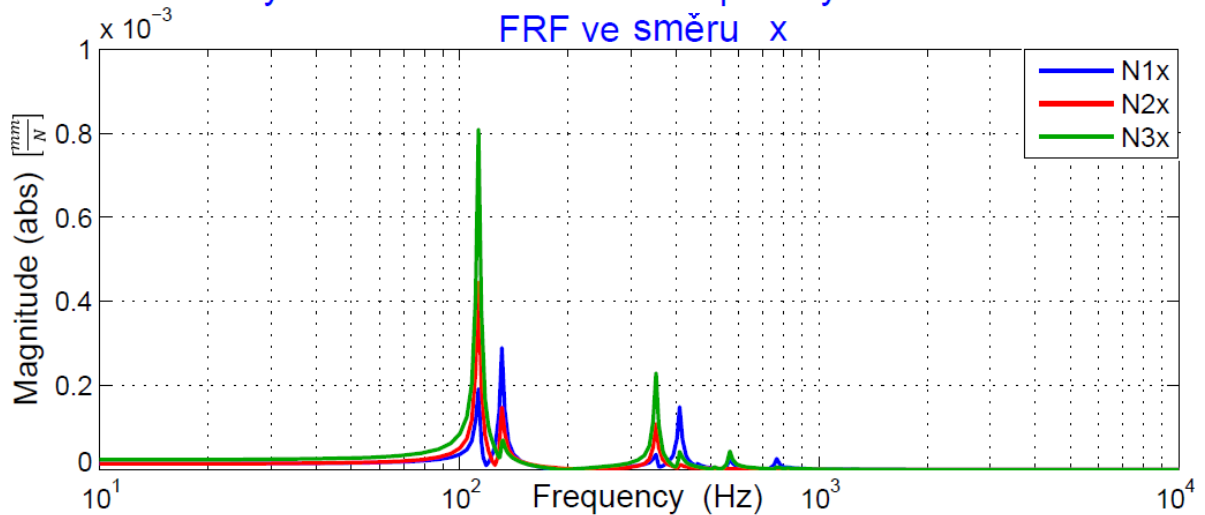
J:RPM a trapézový šroub s výchozí variantou_V3A
Total Deformation 6
Type: Total Deformation
Frequency: 513,11 Hz
Unit: mm
13.6.2015 18:18



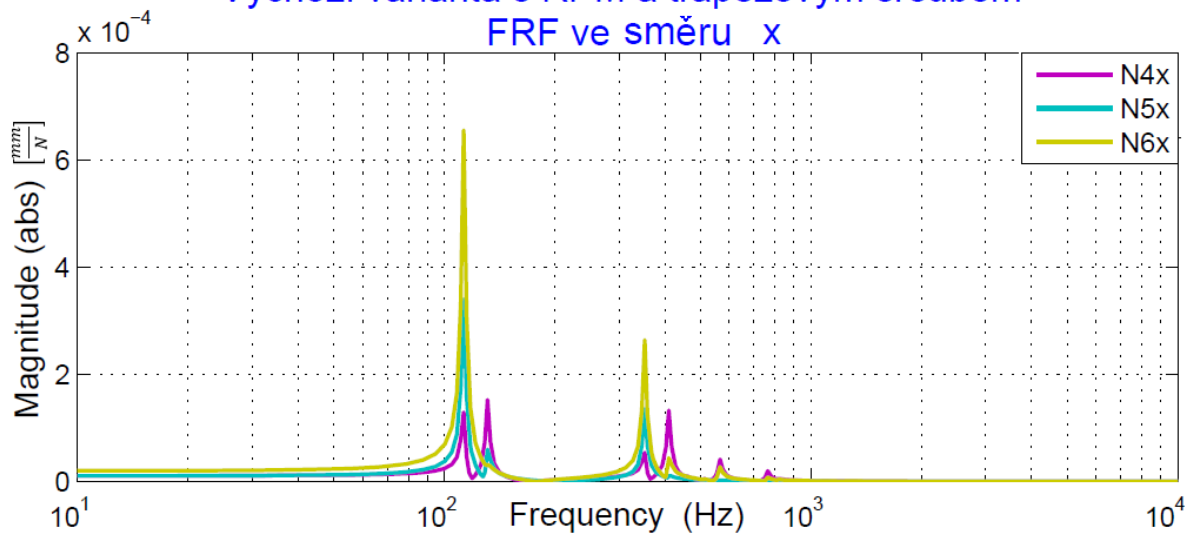
Harmonická analýza

Frekvenční přenosové funkce

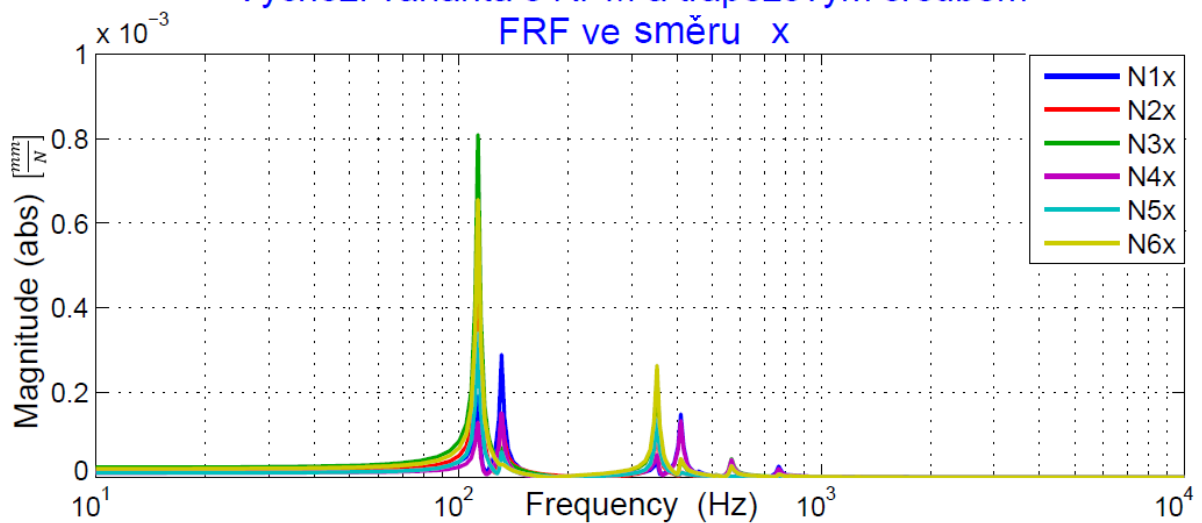
Výchozí varianta s RPM a trapézovým šroubem
FRF ve směru x



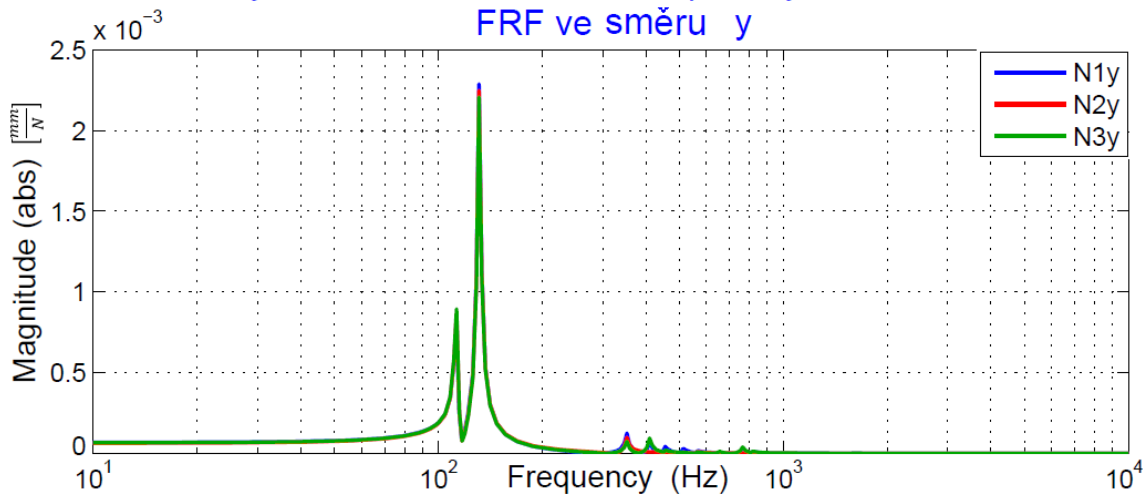
Výchozí varianta s RPM a trapézovým šroubem
FRF ve směru x



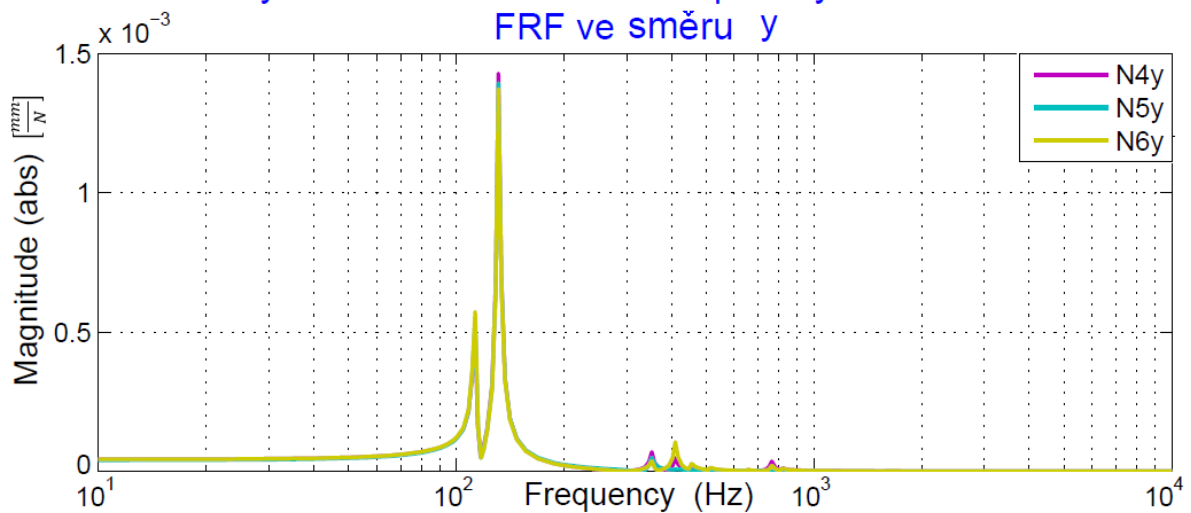
Výchozí varianta s RPM a trapézovým šroubem
FRF ve směru x



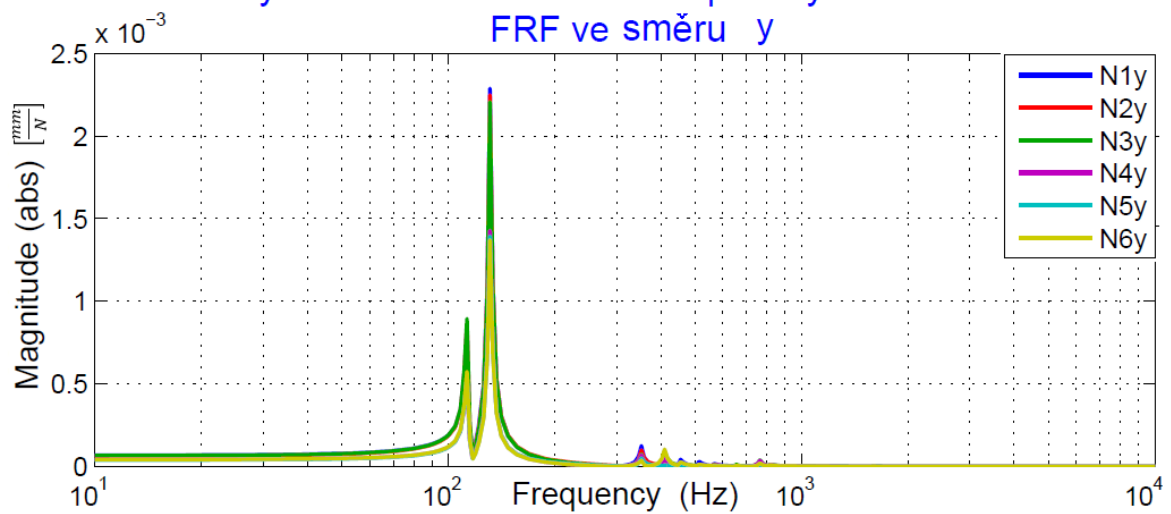
Výchozí varianta s RPM a trapézovým šroubem
FRF ve směru y



Výchozí varianta s RPM a trapézovým šroubem
FRF ve směru y

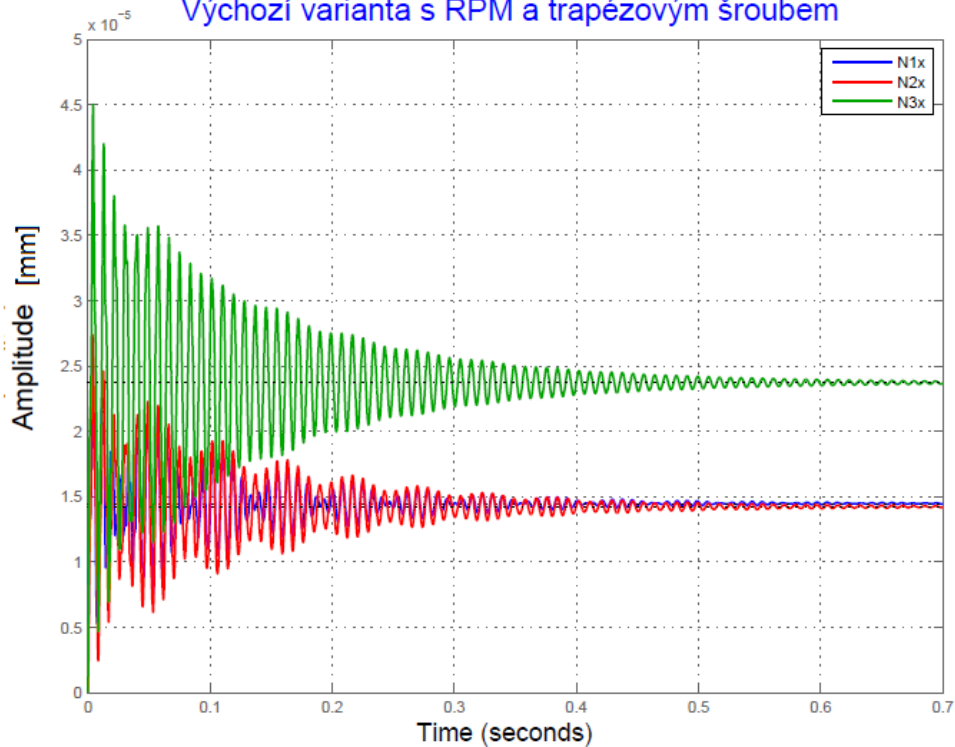


Výchozí varianta s RPM a trapézovým šroubem
FRF ve směru y

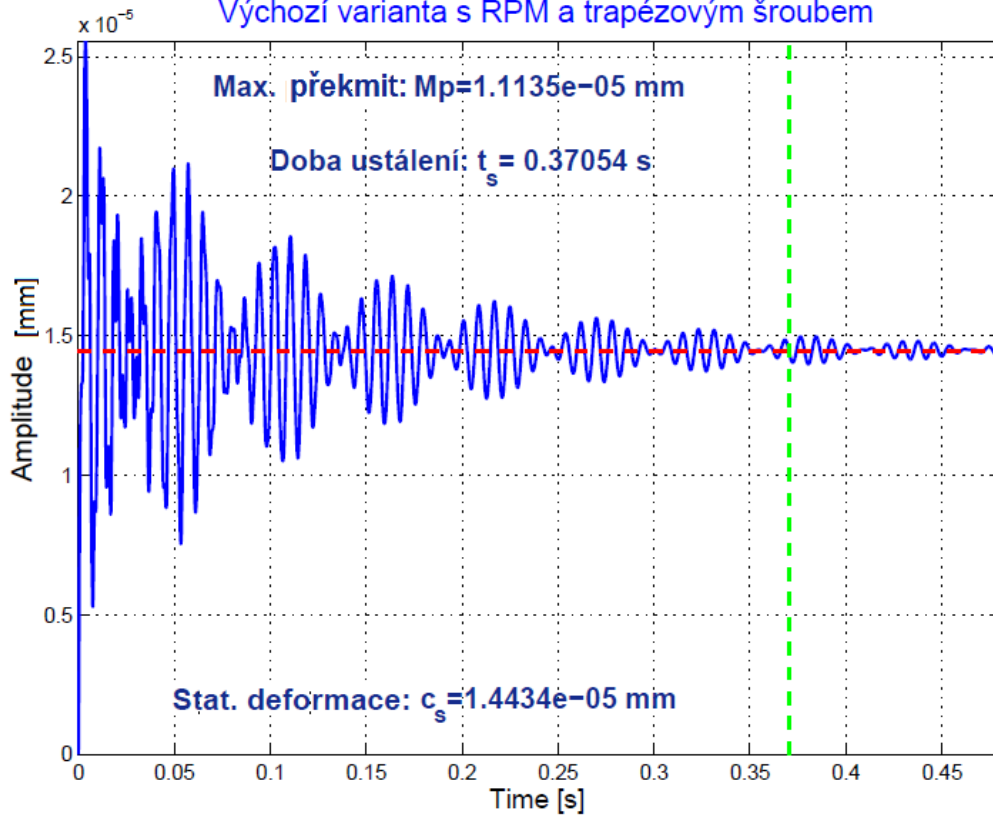


Přechodová charakteristika

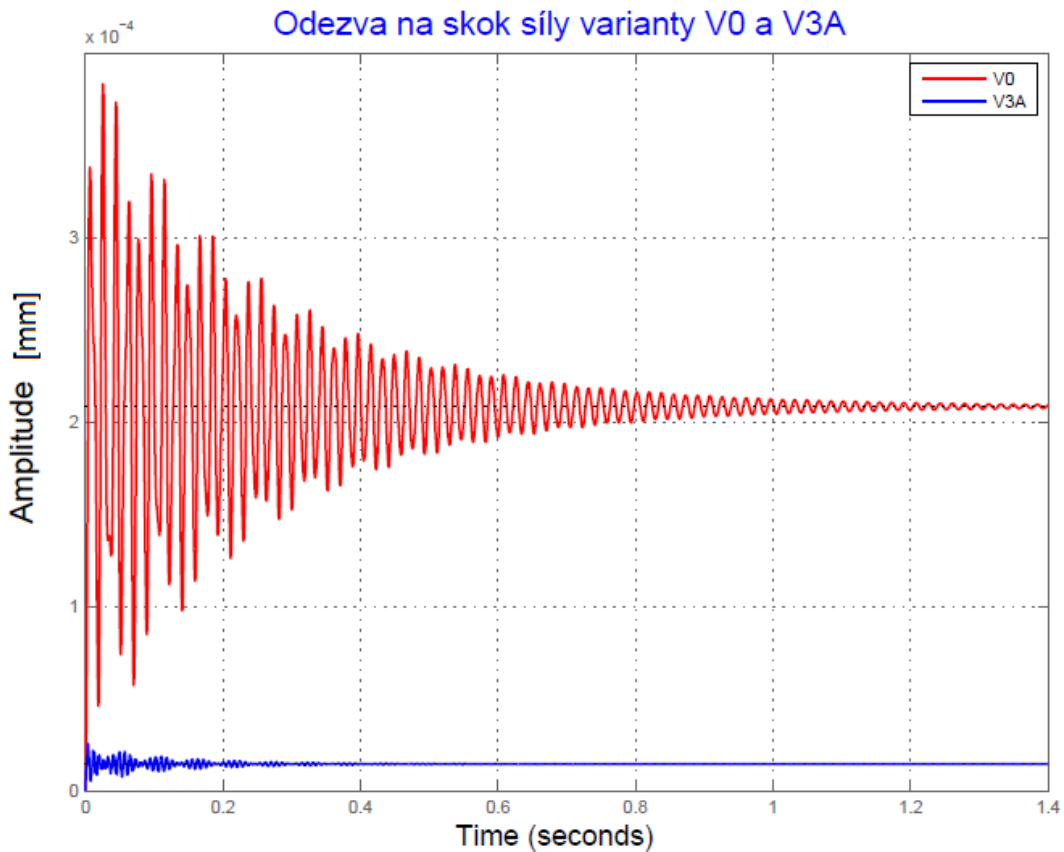
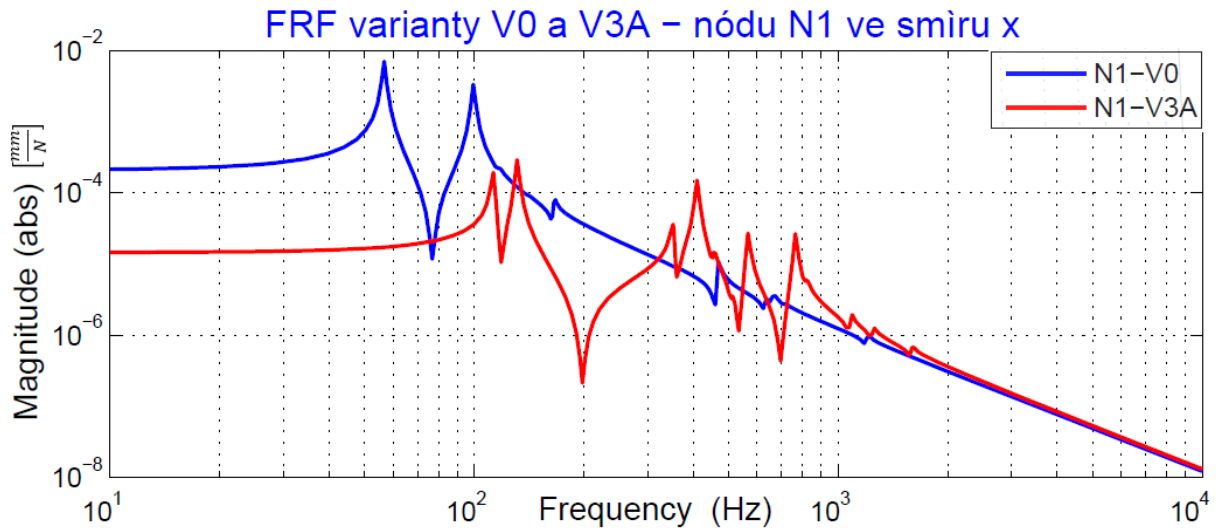
Přechodová charakteristika
Výchozí varianta s RPM a trapezovým šroubem



Přechodová charakteristika
Výchozí varianta s RPM a trapezovým šroubem



Porovnání s původní variantou V0

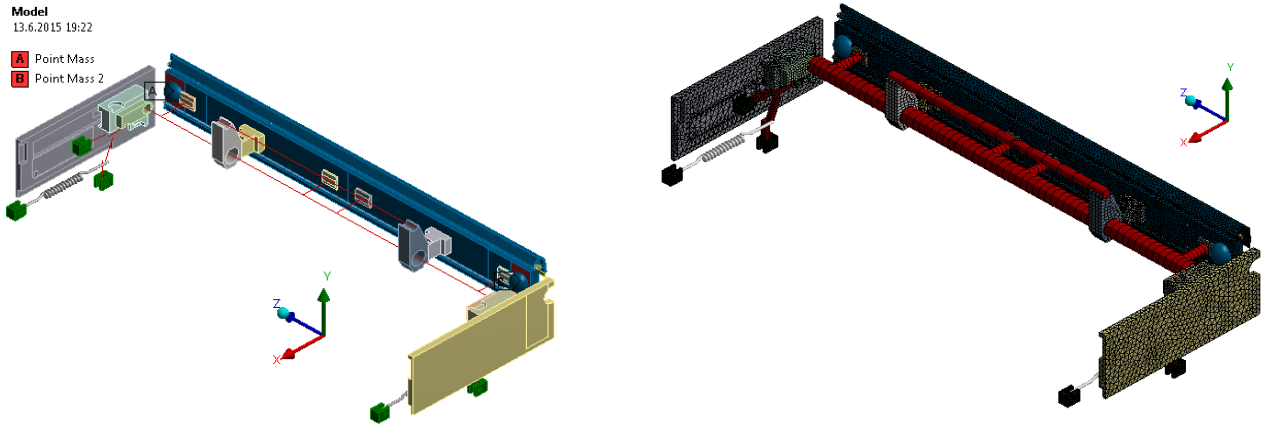


Varianta	Ω_{1i} [Hz]	$\Delta\Omega_i$ [%]	α_{1i} [$\frac{\mu m}{N}$]	$\Delta\alpha_i$ [%]	c_{si} [$\frac{\mu m}{N}$]	Δc_{si} [%]	t_s [s]
V0	56,7	-	7	-	0,21	-	0,79
V3A	113	99,3 ⊕	0,192	97,3 ⊕	0,0145	93,1 ⊕	0,37

Varianta V3B – pákový mechanismus

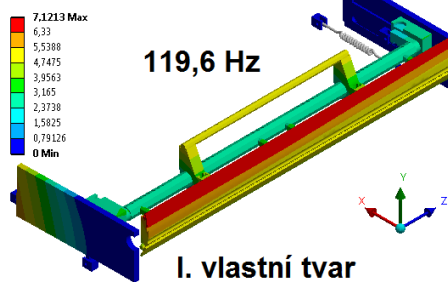
Modální analýza

Strukturální model

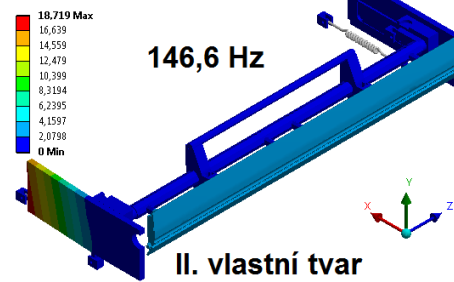


Vlastní tvary kmitu

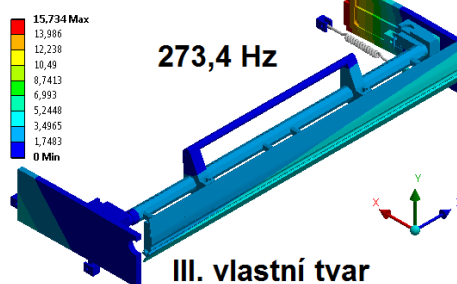
R: Pákový mechanismus_V3B
Total Deformation
Type: Total Deformation
Frequency: 119,62 Hz
Unit: mm
13.6.2015 20:02



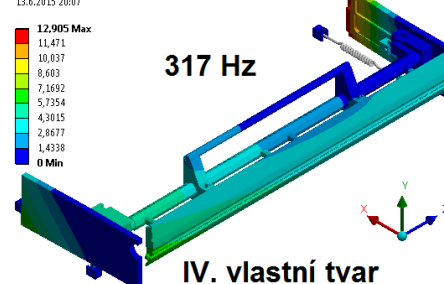
R: Pákový mechanismus_V3B
Total Deformation 2
Type: Total Deformation
Frequency: 146,57 Hz
Unit: mm
13.6.2015 20:04



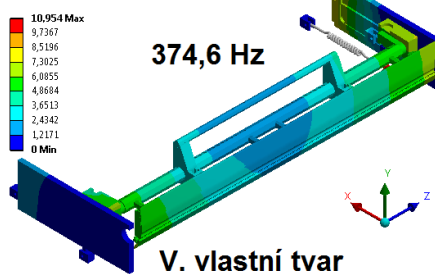
R: Pákový mechanismus_V3B
Total Deformation 3
Type: Total Deformation
Frequency: 273,43 Hz
Unit: mm
13.6.2015 20:05



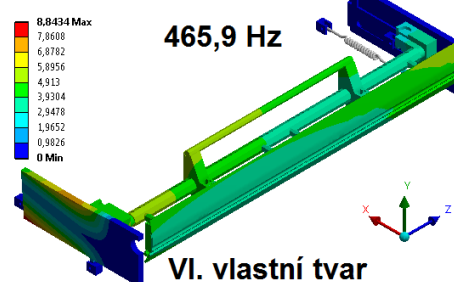
R: Pákový mechanismus_V3B
Total Deformation 4
Type: Total Deformation
Frequency: 317, Hz
Unit: mm
13.6.2015 20:07



R: Pákový mechanismus_V3B
Total Deformation 5
Type: Total Deformation
Frequency: 374,58 Hz
Unit: mm
13.6.2015 20:08



R: Pákový mechanismus_V3B
Total Deformation 6
Type: Total Deformation
Frequency: 465,85 Hz
Unit: mm
13.6.2015 20:11

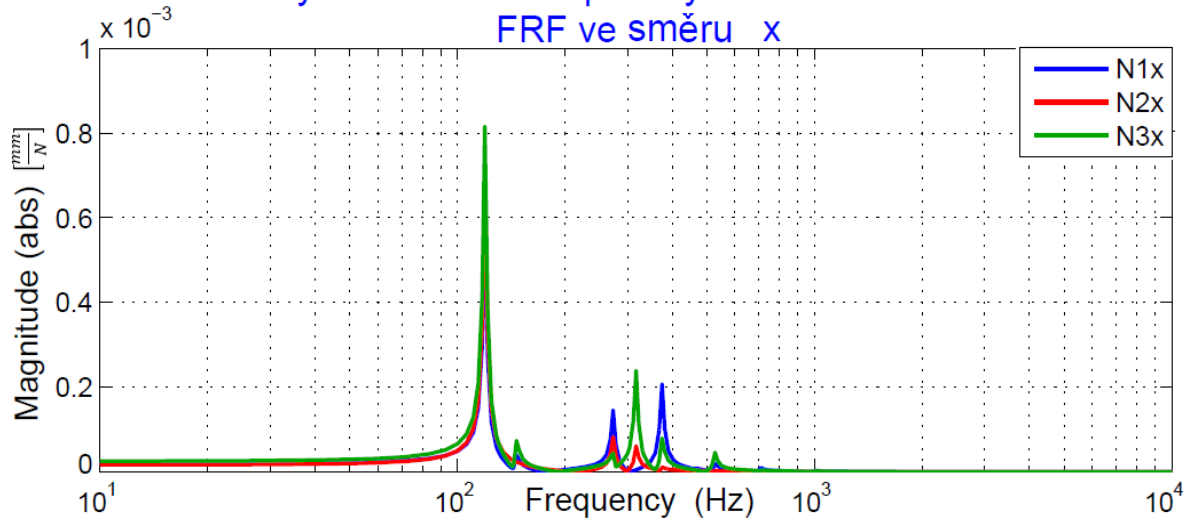


Harmonická analýza

Frekvenční přenosové funkce

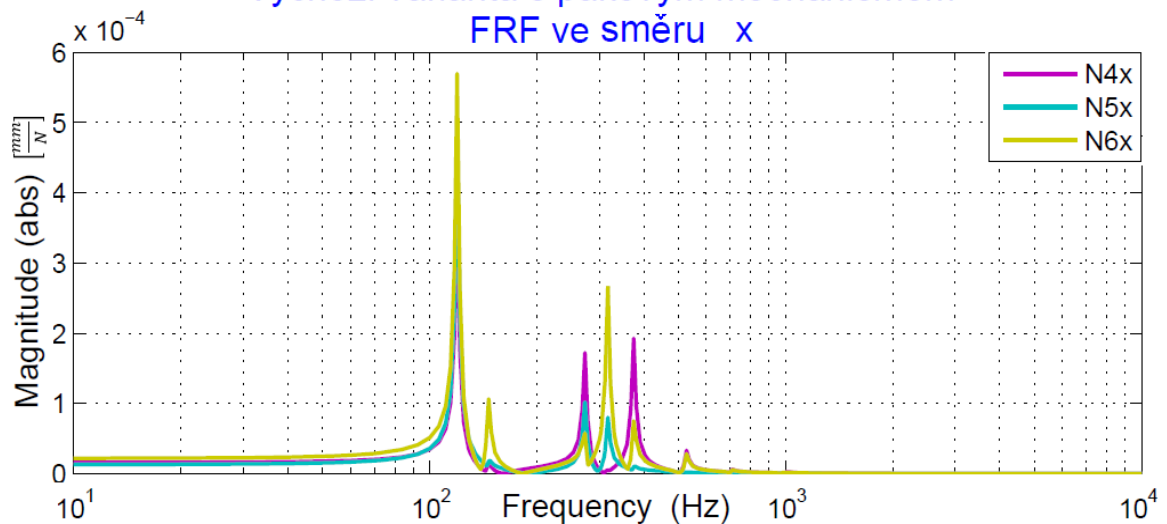
Výchozí varianta s pákovým mechanismem

FRF ve směru x



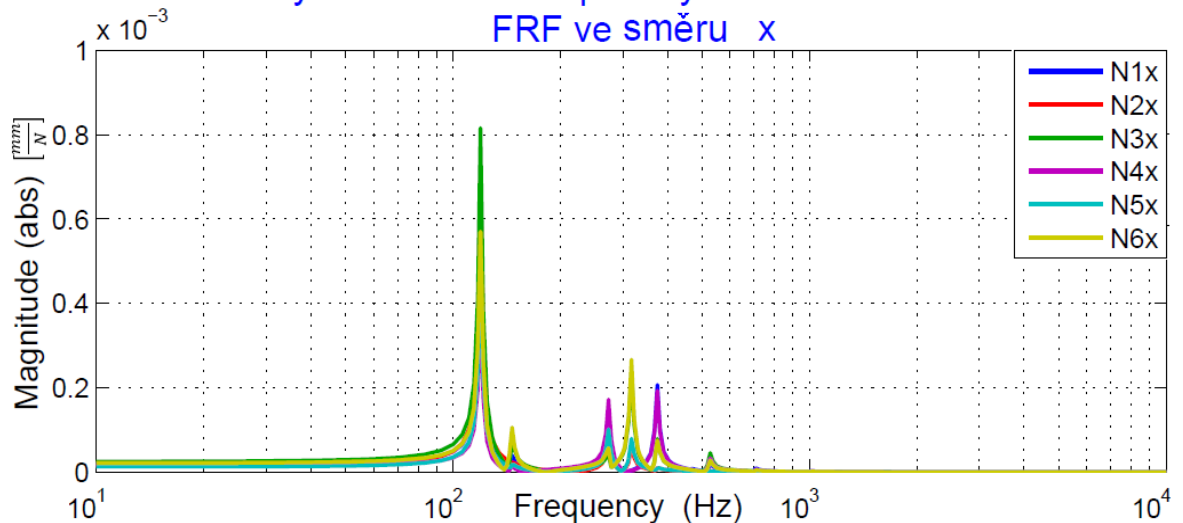
Výchozí varianta s pákovým mechanismem

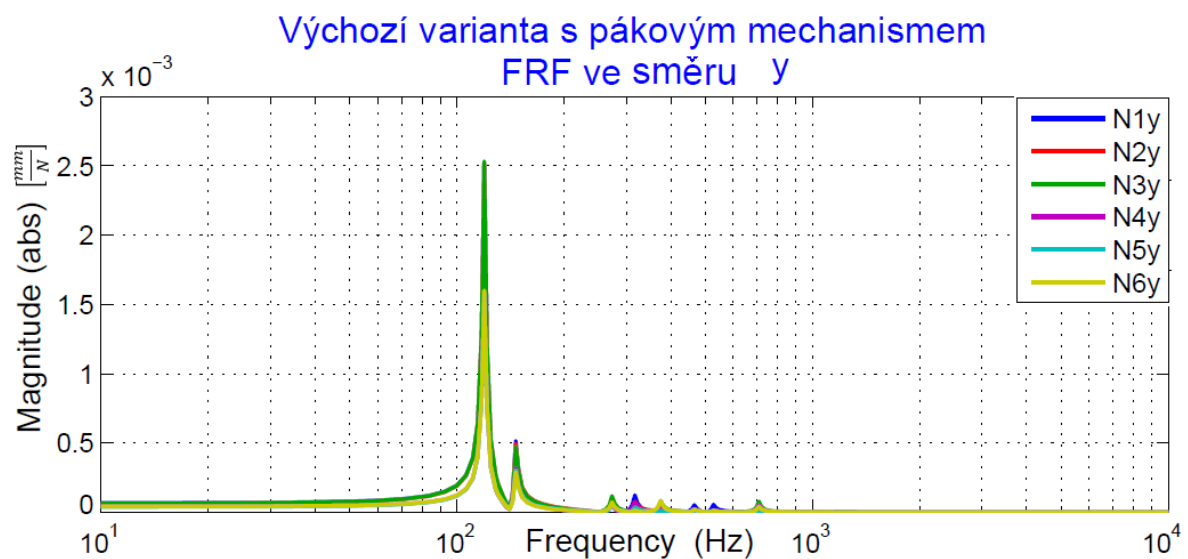
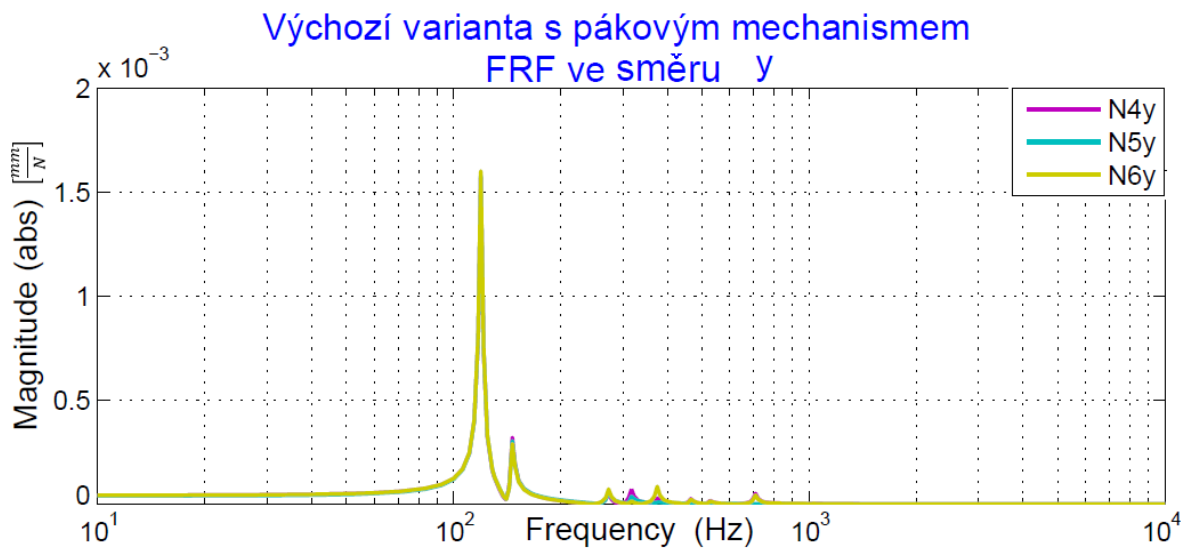
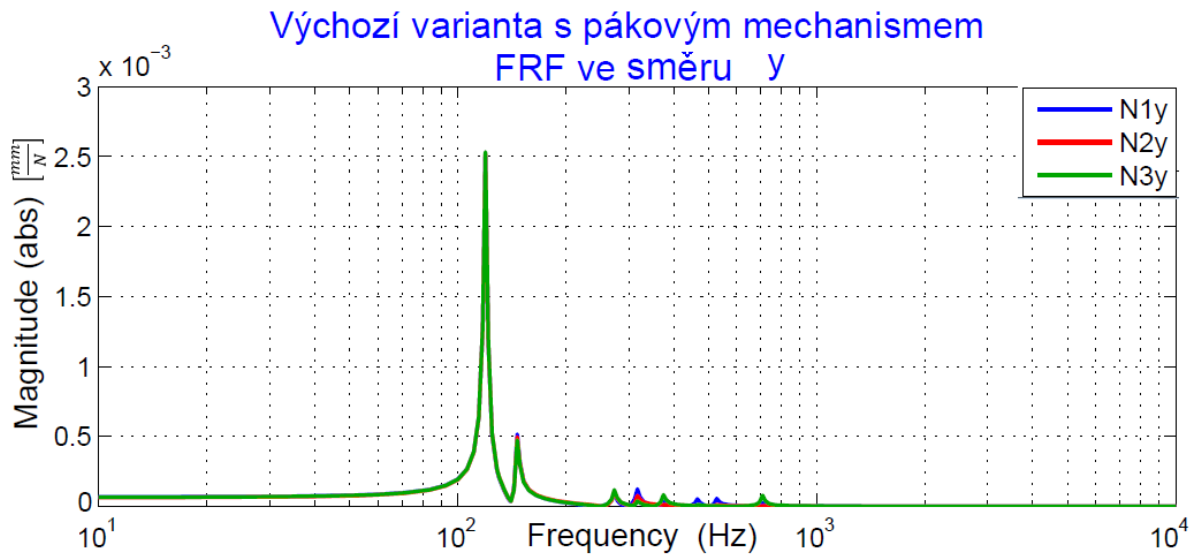
FRF ve směru x



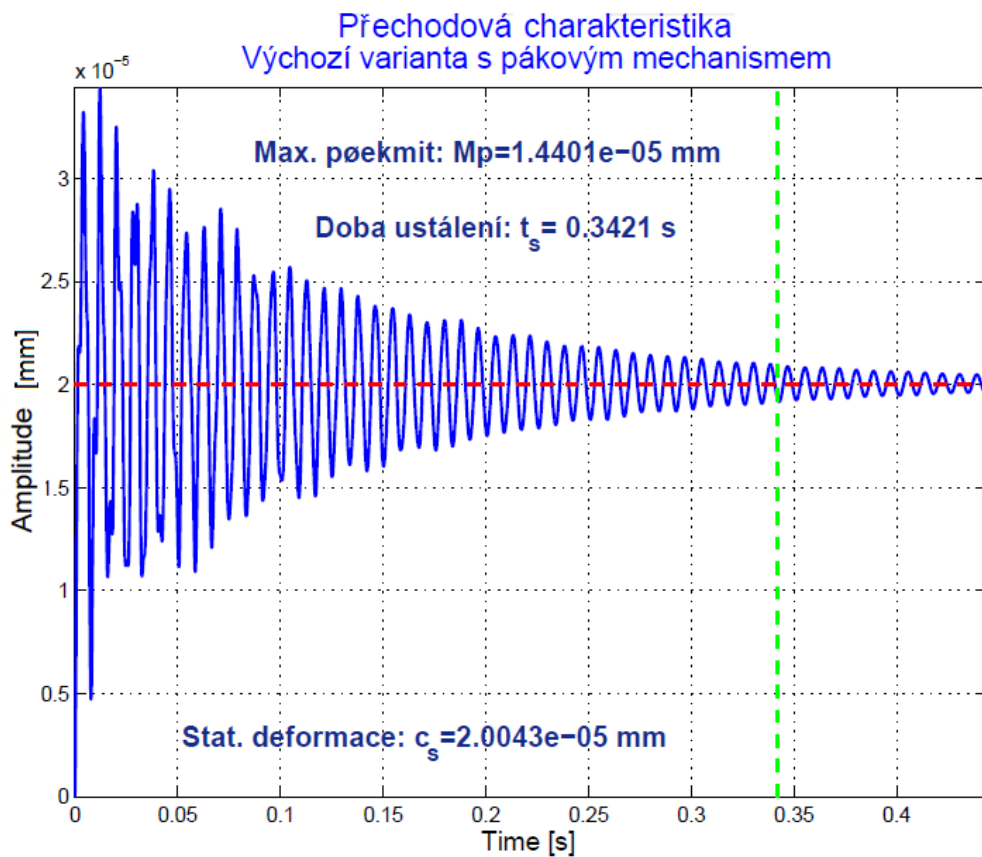
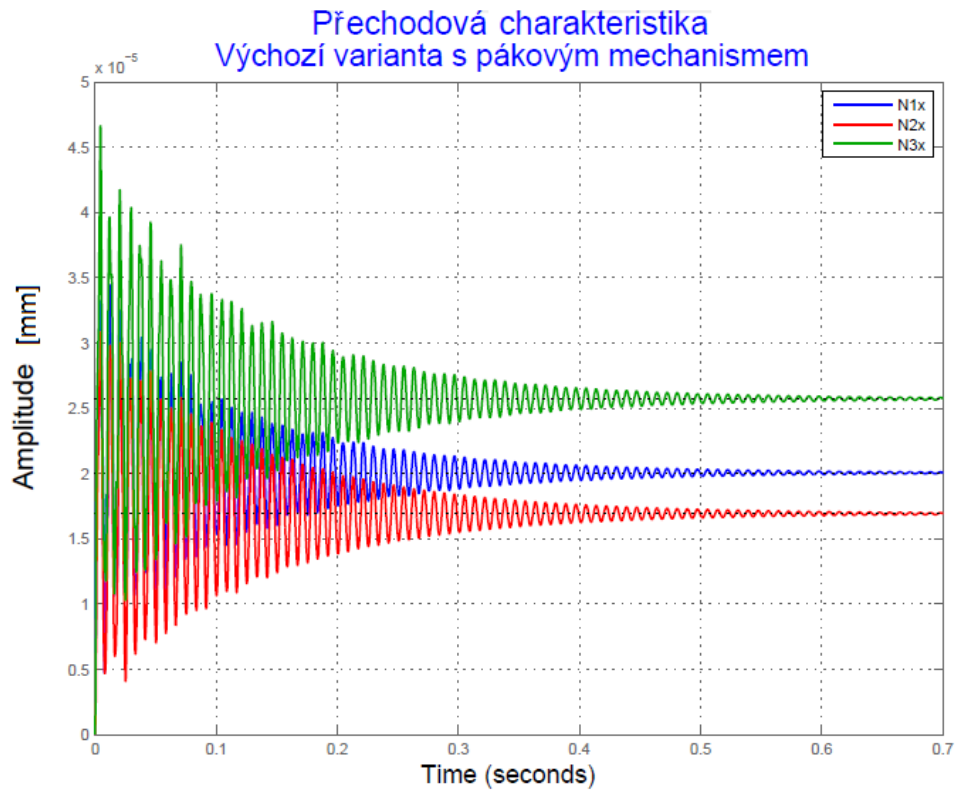
Výchozí varianta s pákovým mechanismem

FRF ve směru x

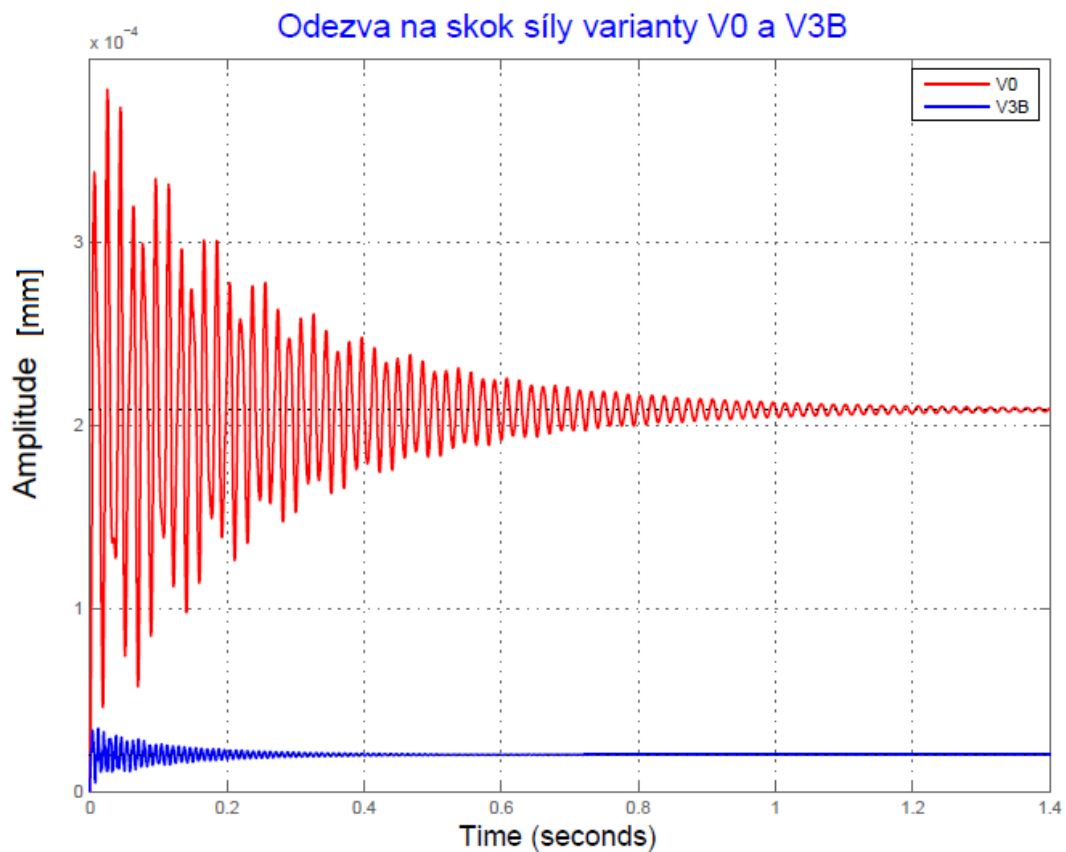
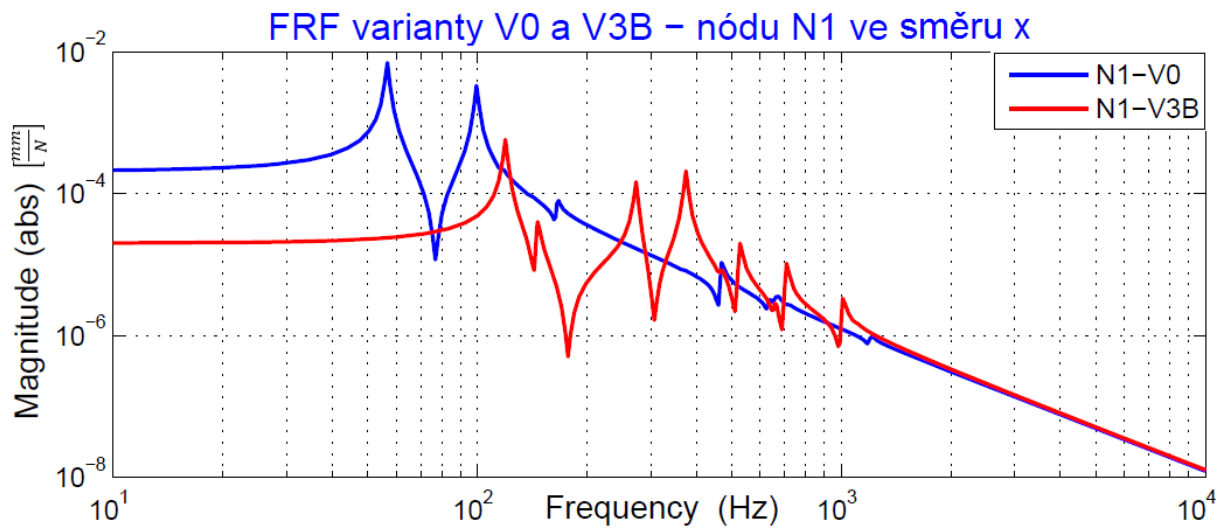




Přechodová charakteristika



Porovnání s původní variantou V0



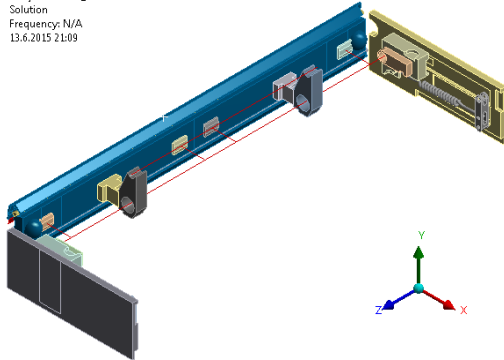
Varianta	Ω_{1i} [Hz]	$\Delta\Omega_i$ [%]	α_{1i} [$\frac{\mu m}{N}$]	$\Delta\alpha_i$ [%]	c_{si} [$\frac{\mu m}{N}$]	Δc_{si} [%]	t_s [s]
V0	56,7	-	7	-	0,21	-	0,79
V3B	120	111,7 ⊕	0,467	93,3 ⊕	0,02	90,5 ⊕	0,34

Varianta V3C – lineární hydromotor

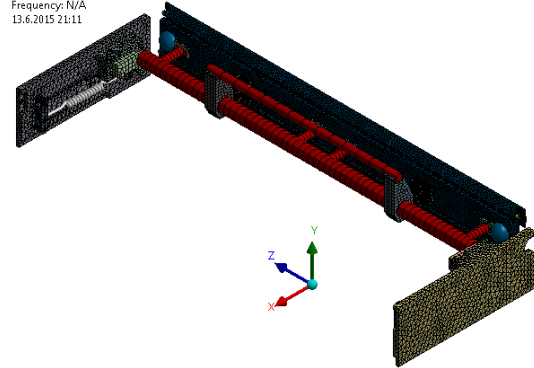
Modální analýza

Strukturální model

T: Hydromotor_V3C
Solution
Frequency: N/A
13.6.2015 21:09

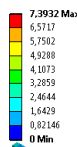


T: Hydromotor_V3C
Solution
Frequency: N/A
13.6.2015 21:11

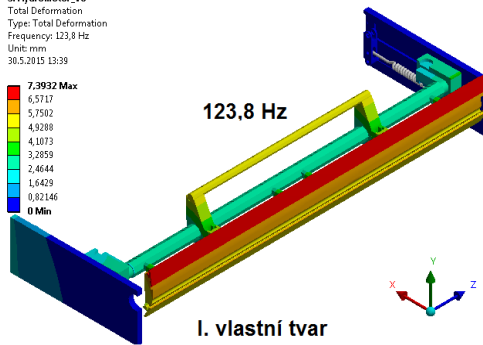


Vlastní tvary kmitu

S: Hydromotor_V6
Total Deformation
Type: Total Deformation
Frequency: 123,8 Hz
Unit: mm
30.5.2015 13:39

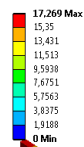


123,8 Hz

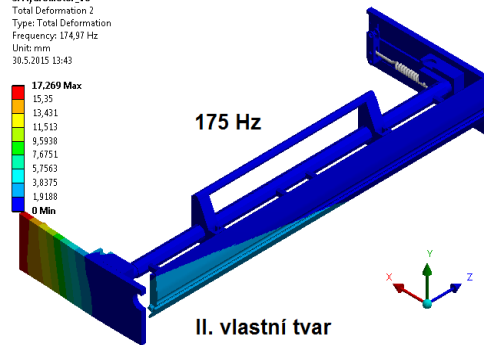


I. vlastní tvar

S: Hydromotor_V6
Total Deformation 2
Type: Total Deformation
Frequency: 174,97 Hz
Unit: mm
30.5.2015 13:43

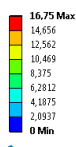


175 Hz

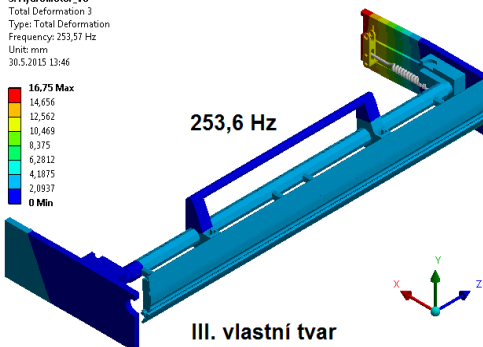


II. vlastní tvar

S: Hydromotor_V6
Total Deformation 3
Type: Total Deformation
Frequency: 253,57 Hz
Unit: mm
30.5.2015 13:46

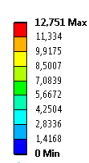


253,6 Hz

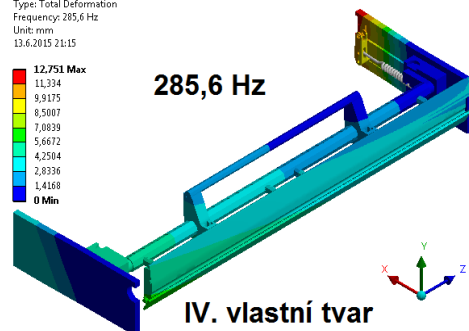


III. vlastní tvar

T: Hydromotor_V3C
Total Deformation 4
Type: Total Deformation
Frequency: 285,6 Hz
Unit: mm
13.6.2015 21:15

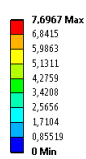


285,6 Hz

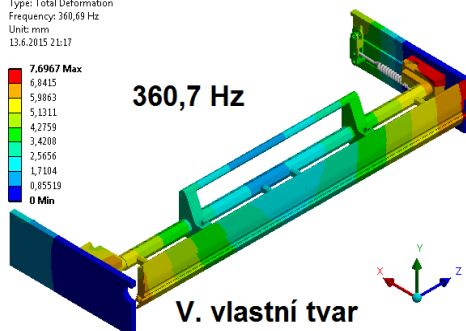


IV. vlastní tvar

T: Hydromotor_V3C
Total Deformation 5
Type: Total Deformation
Frequency: 360,69 Hz
Unit: mm
13.6.2015 21:17

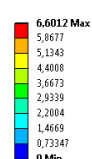


360,7 Hz

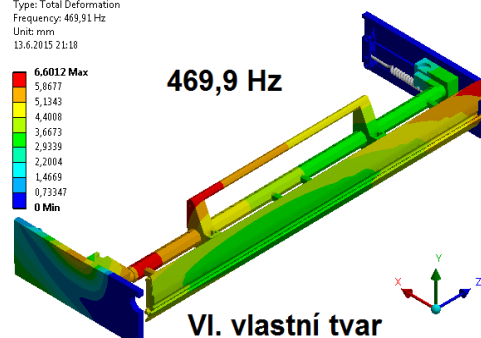


V. vlastní tvar

T: Hydromotor_V3C
Total Deformation 6
Type: Total Deformation
Frequency: 469,91 Hz
Unit: mm
13.6.2015 21:18



469,9 Hz



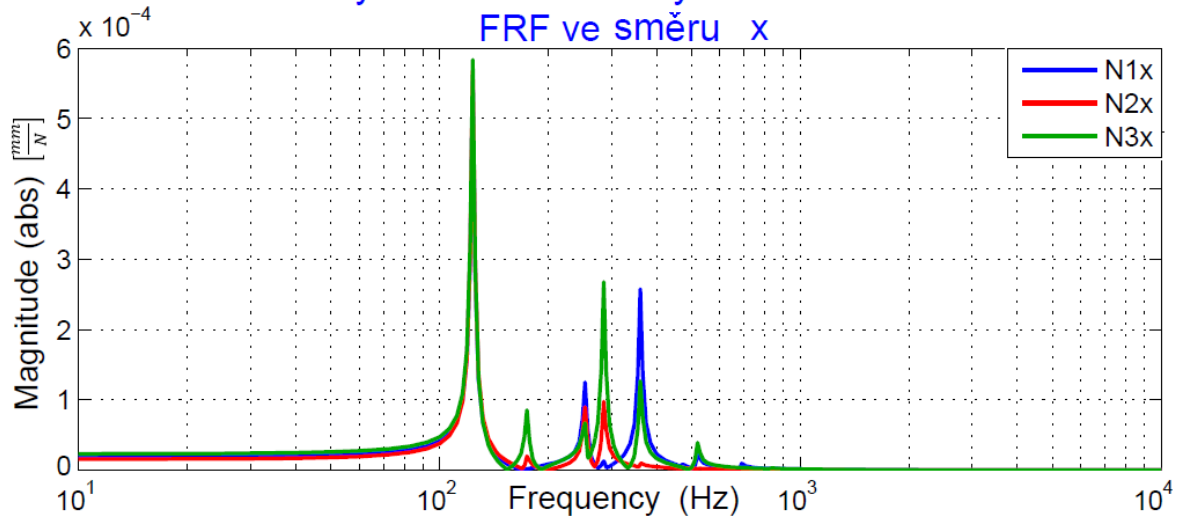
VI. vlastní tvar

Harmonická analýza

Frekvenční přenosové funkce

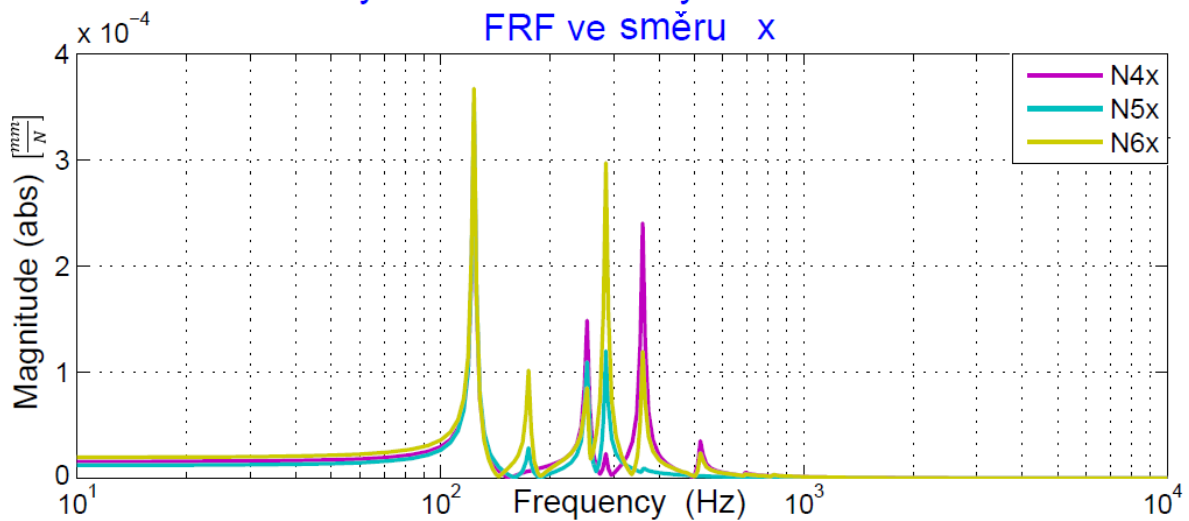
Výchozí varianta s Hydromotorem

FRF ve směru x



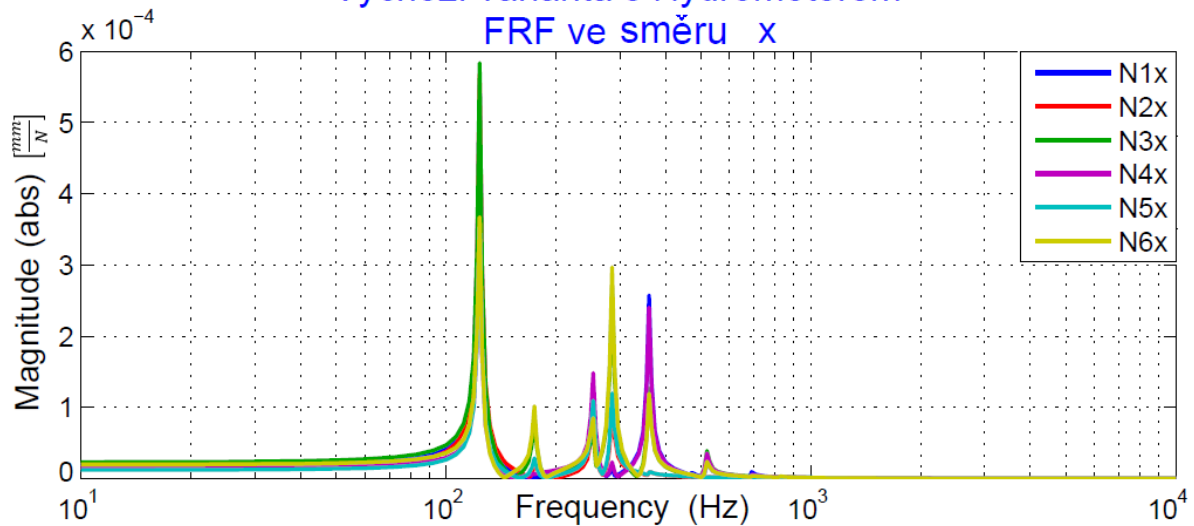
Výchozí varianta s Hydromotorem

FRF ve směru x

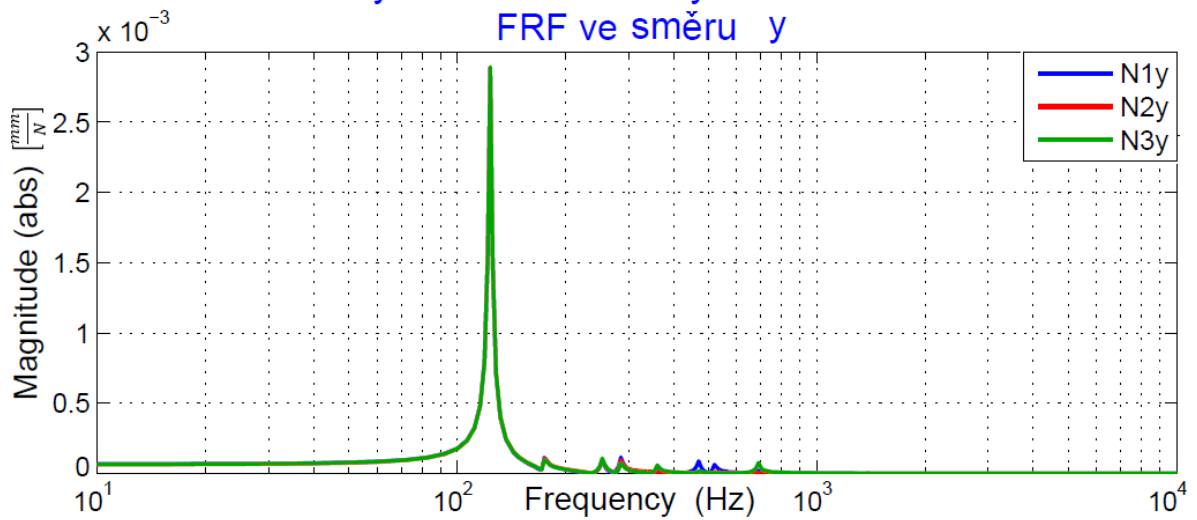


Výchozí varianta s Hydromotorem

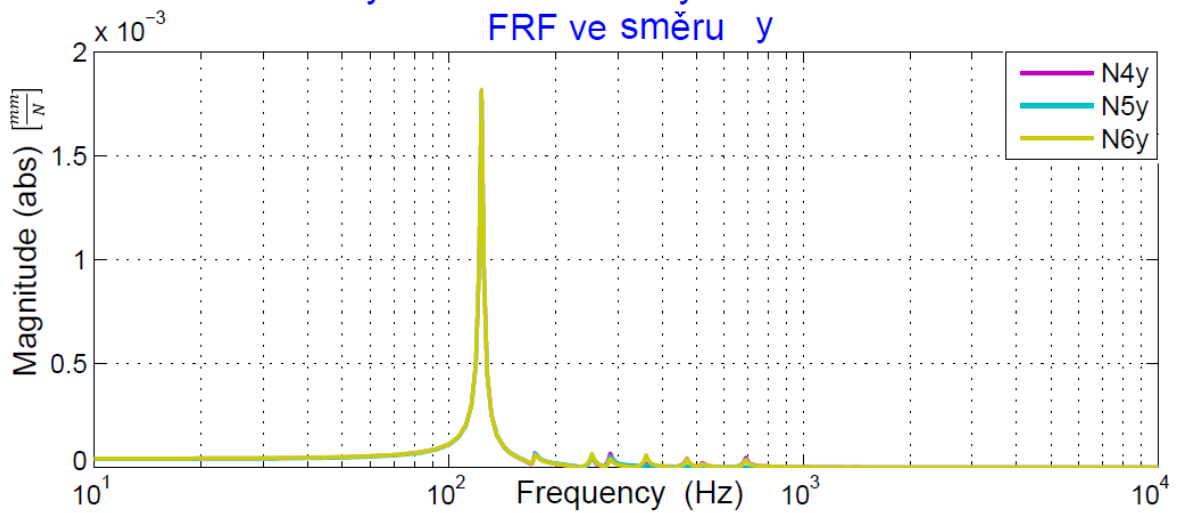
FRF ve směru x



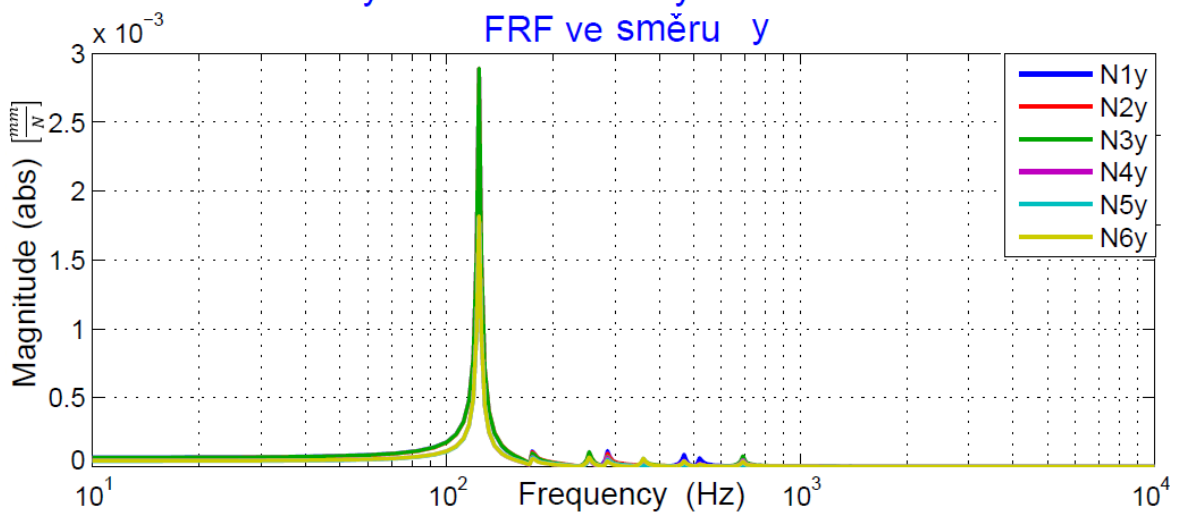
Výchozí varianta s Hydromotorem
FRF ve směru y



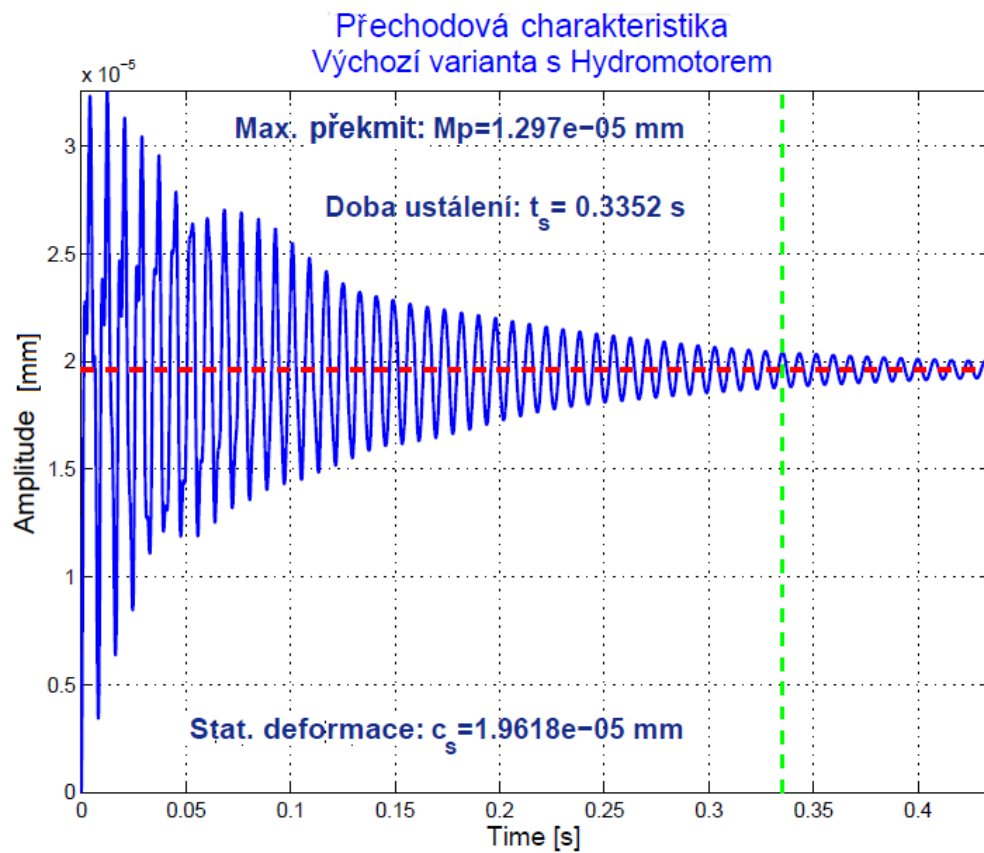
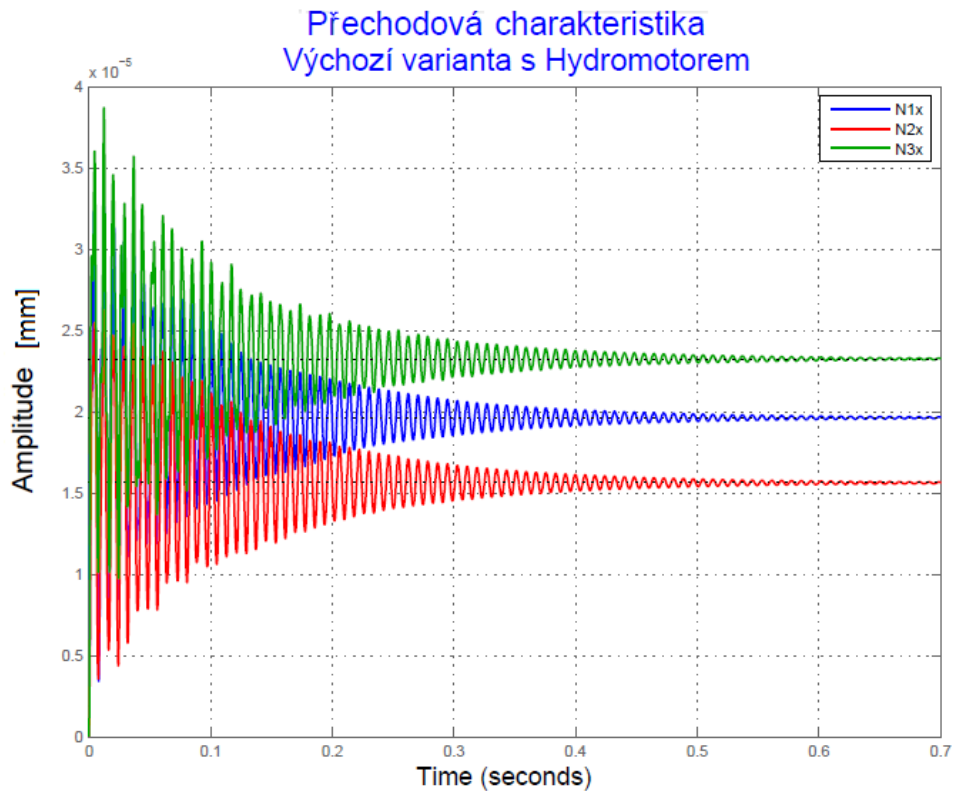
Výchozí varianta s Hydromotorem
FRF ve směru y



Výchozí varianta s Hydromotorem
FRF ve směru y

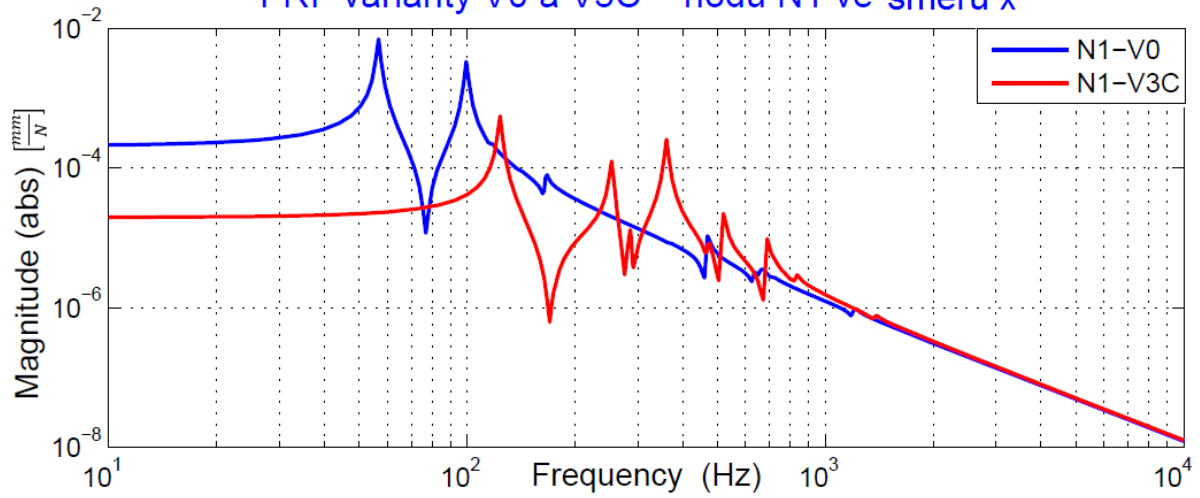


Přechodová charakteristika

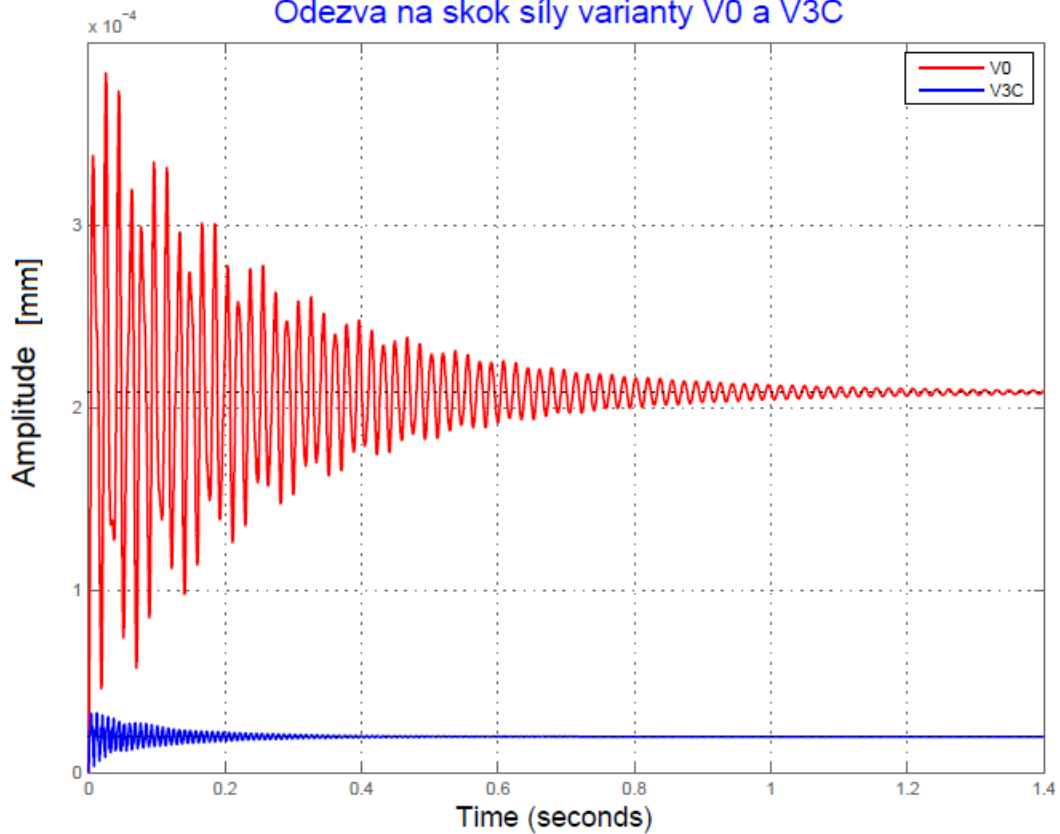


Porovnání s původní variantou V0

FRF varianty V0 a V3C – nódu N1 ve směru x



Odezva na skok síly varianty V0 a V3C



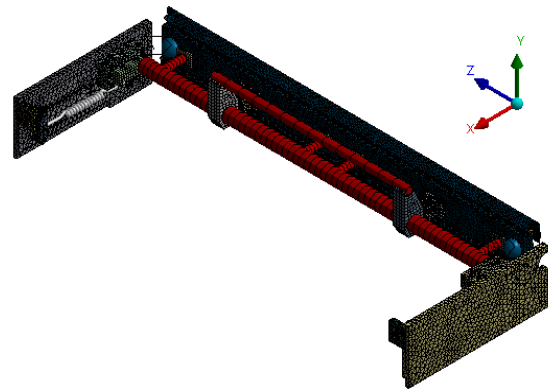
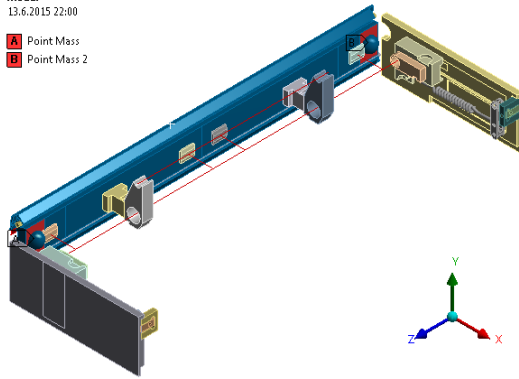
Varianta	Ω_{1i} [Hz]	$\Delta\Omega_i$ [%]	α_{1i} [$\frac{\mu m}{N}$]	$\Delta\alpha_i$ [%]	c_{si} [$\frac{\mu m}{N}$]	Δc_{si} [%]	t_s [s]
V0	56,7	-	7	-	0,21	-	0,79
V3C	124	118,7 ⊕	0,553	92,1 ⊕	0,0197	90,1 ⊕	0,34

Varianta V3D – vetknutá pístnice pneumotoru

Modální analýza

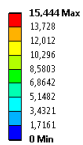
Strukturální model

Model
13.6.2015 22:00
A Point Mass
B Point Mass 2

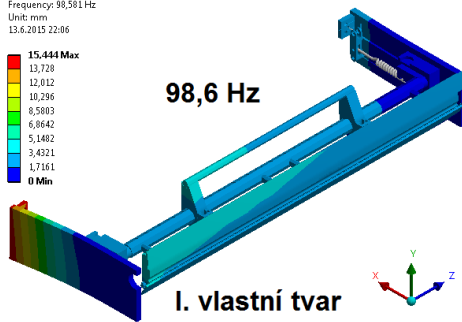


Vlastní tvary kmitu

Total Deformation
Type: Total Deformation
Frequency: 98,591 Hz
Unit: mm
13.6.2015 22:06

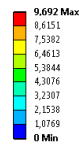


98,6 Hz

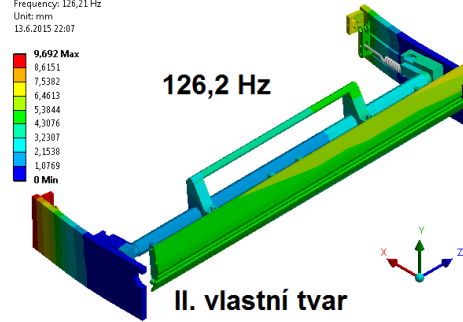


I. vlastní tvar

Total Deformation 2
Type: Total Deformation
Frequency: 126,21 Hz
Unit: mm
13.6.2015 22:07

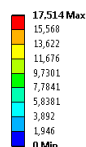


126,2 Hz

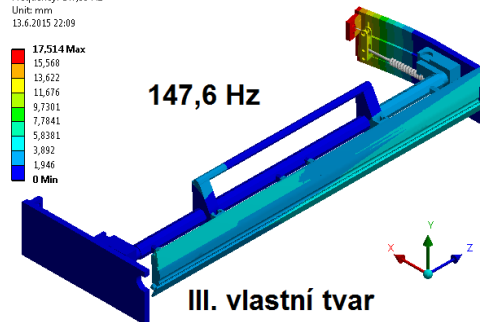


II. vlastní tvar

Total Deformation 3
Type: Total Deformation
Frequency: 147,59 Hz
Unit: mm
13.6.2015 22:09

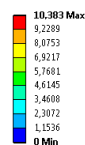


147,6 Hz

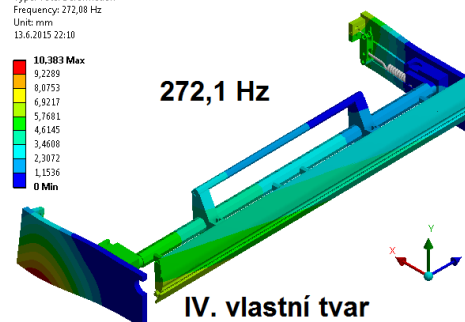


III. vlastní tvar

Total Deformation 4
Type: Total Deformation
Frequency: 272,08 Hz
Unit: mm
13.6.2015 22:10

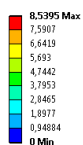


272,1 Hz

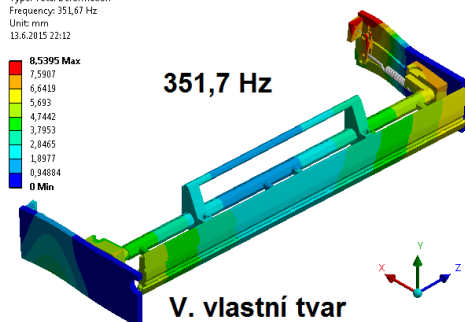


IV. vlastní tvar

Total Deformation 5
Type: Total Deformation
Frequency: 351,67 Hz
Unit: mm
13.6.2015 22:12

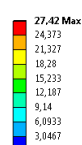


351,7 Hz

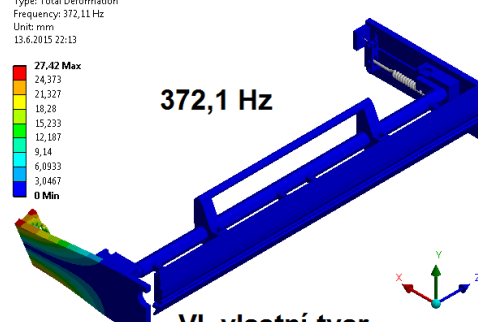


V. vlastní tvar

Total Deformation 6
Type: Total Deformation
Frequency: 372,11 Hz
Unit: mm
13.6.2015 22:13



372,1 Hz



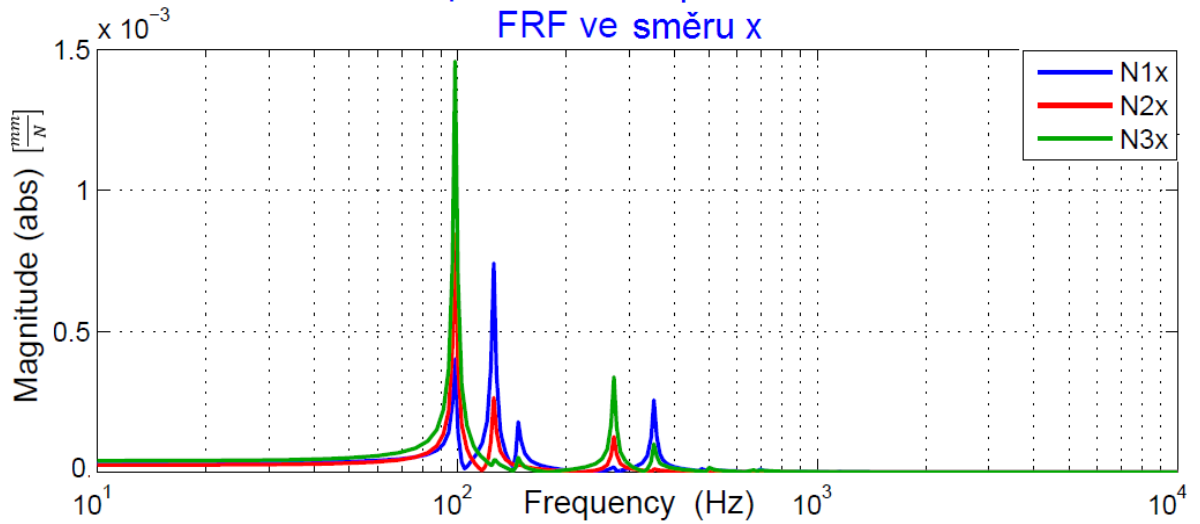
VI. vlastní tvar

Harmonická analýza

Frekvenční přechodová charakteristika

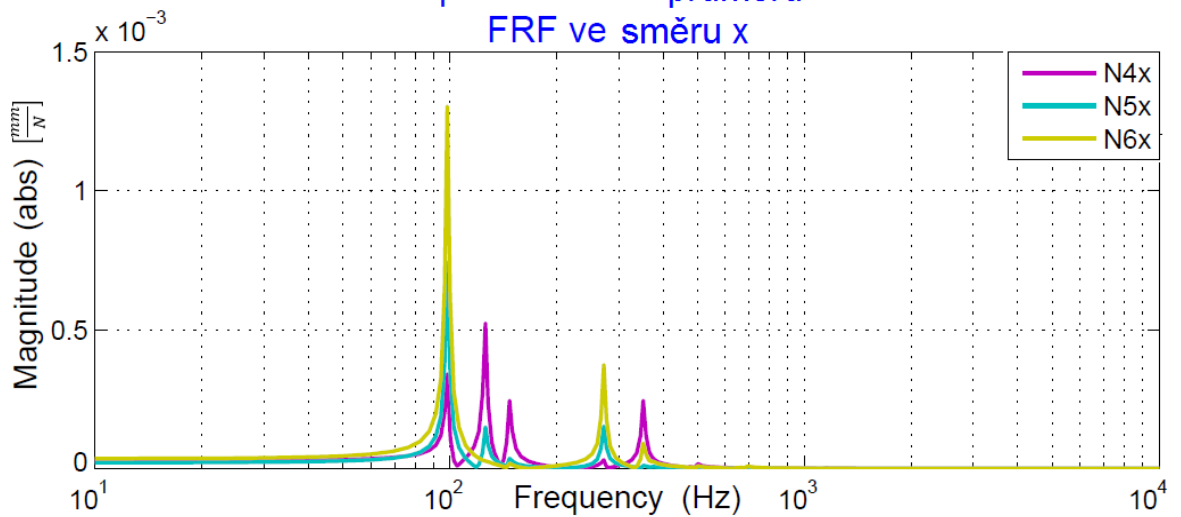
Vetknutá pístnice PM o průměru $d=12\text{mm}$

FRF ve směru x



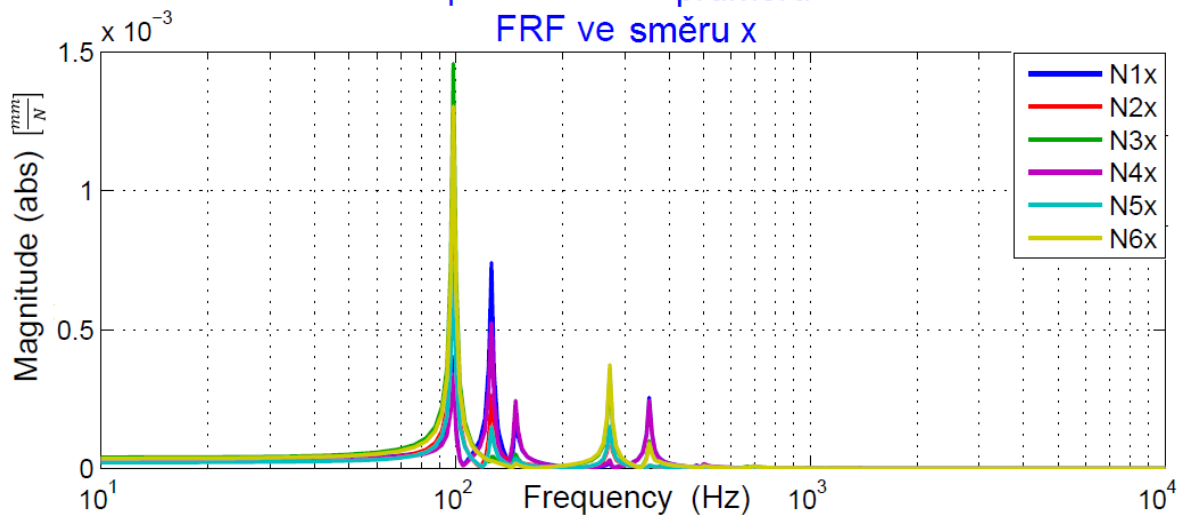
Vetknutá pístnice PM o průměru $d=12\text{mm}$

FRF ve směru x

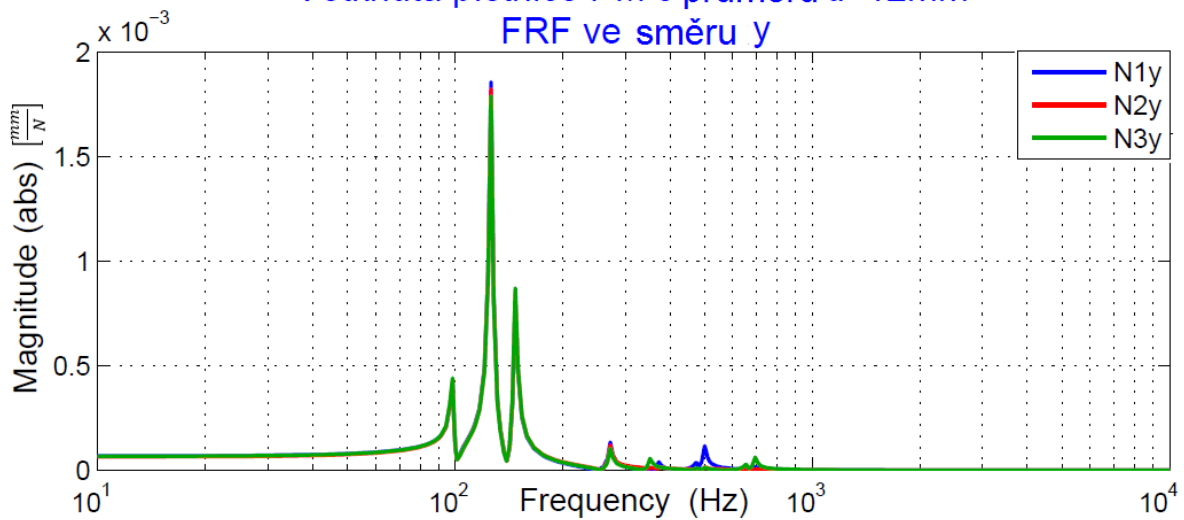


Vetknutá pístnice PM o průměru $d=12\text{mm}$

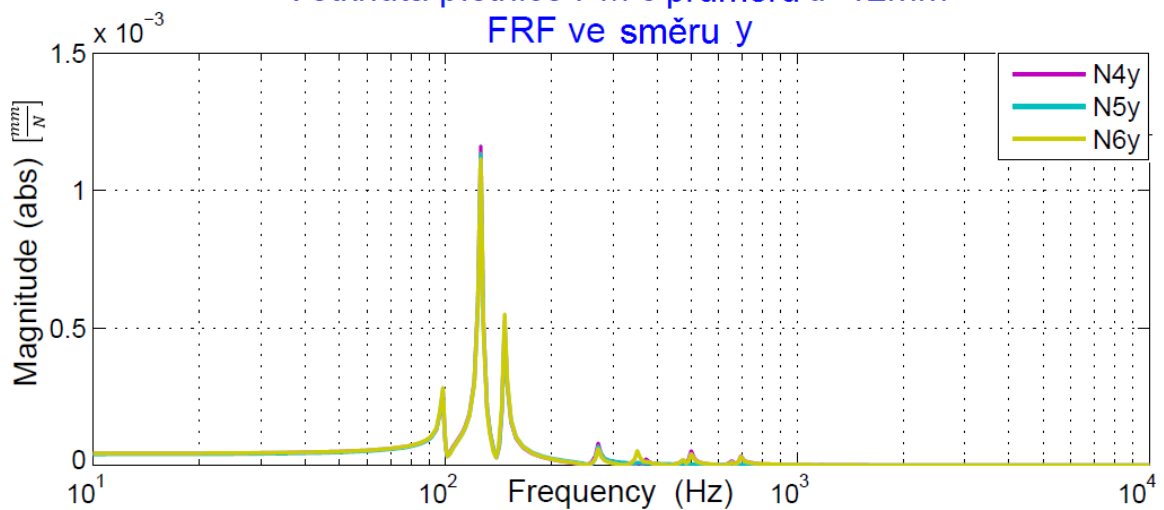
FRF ve směru x



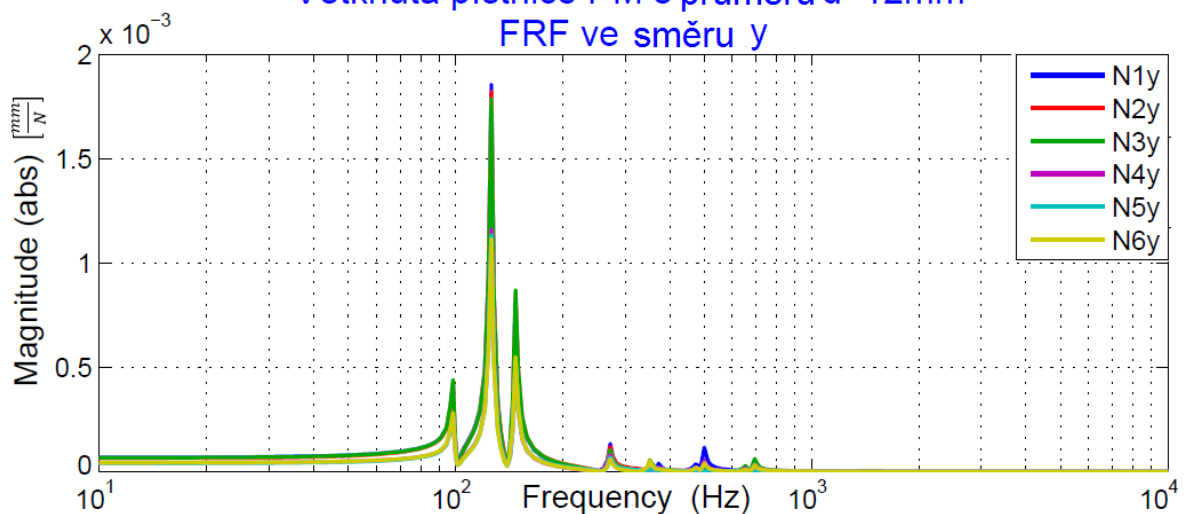
Vetknutá pístitnice PM o průměru d=12mm
FRF ve směru y



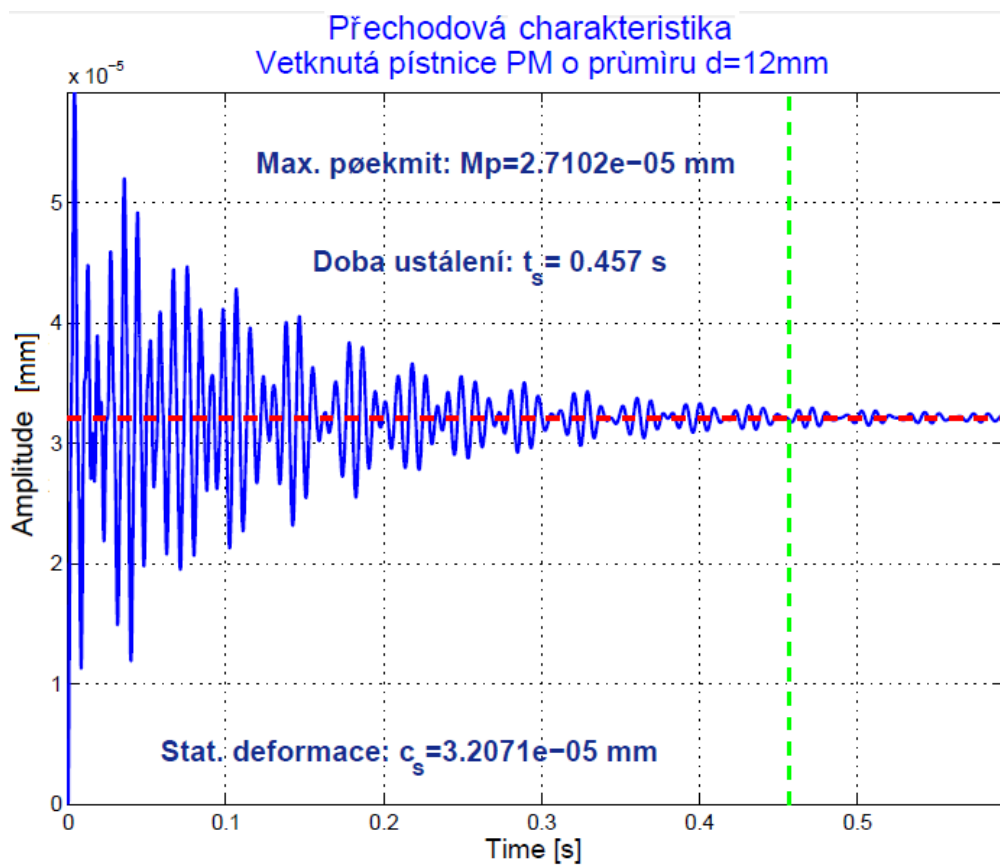
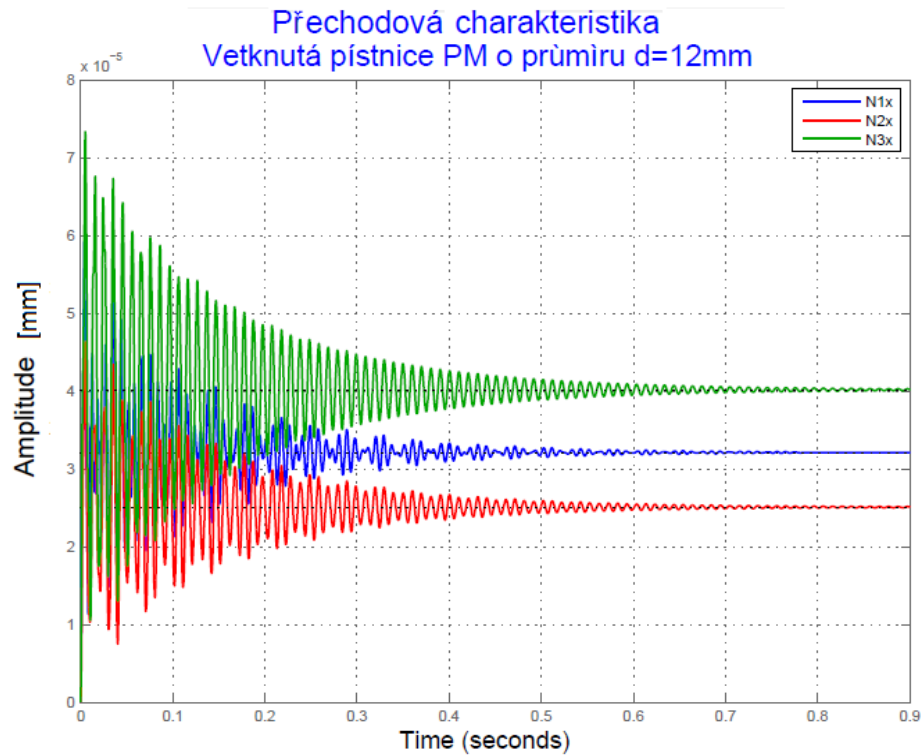
Vetknutá pístitnice PM o průměru d=12mm
FRF ve směru y



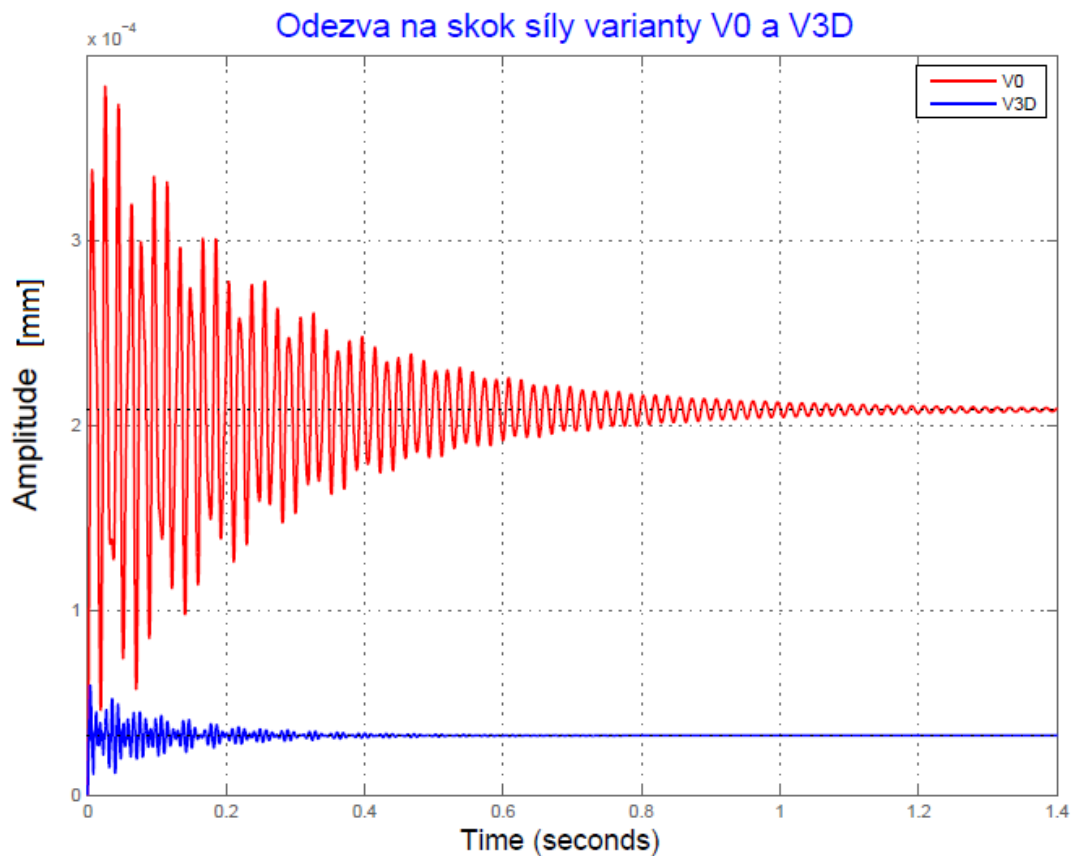
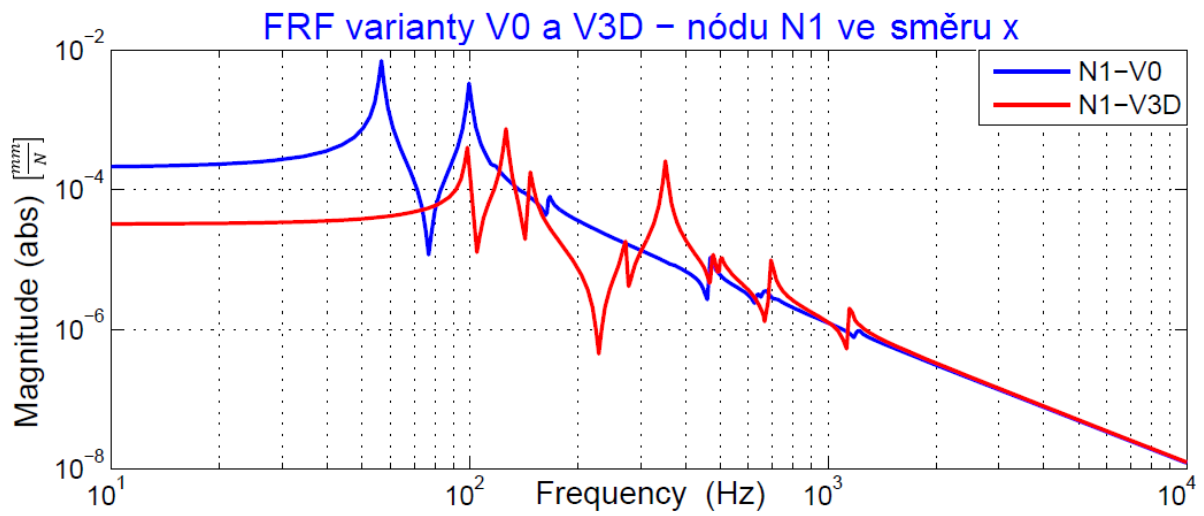
Vetknutá pístitnice PM o průměru d=12mm
FRF ve směru y



Přechodová charakteristika



Porovnání s původní variantou V0



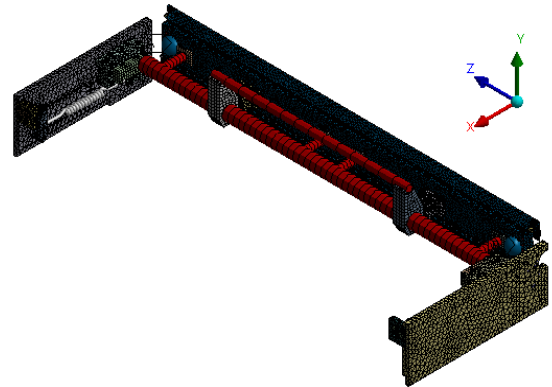
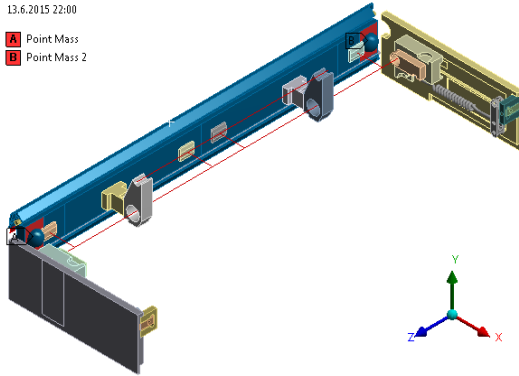
Varianta	Ω_{1i} [Hz]	$\Delta\Omega_i$ [%]	α_{1i} [$\frac{\mu m}{N}$]	$\Delta\alpha_i$ [%]	c_{si} [$\frac{\mu m}{N}$]	Δc_{si} [%]	t_s [s]
V0	56,7	-	7	-	0,21	-	0,79
V3D	98,6	73,9 ⊕	0,401	94,3 ⊕	0,032	84,8 ⊕	0,46

Varianta V4 – tužší lineární vedení

Modální analýza

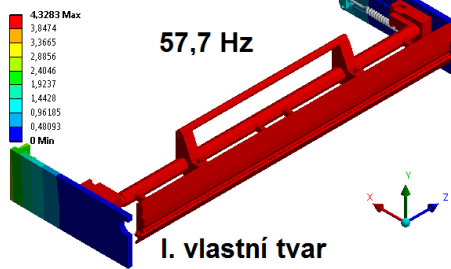
Strukturální model

Model
13.6.2015 22:00
A Point Mass
B Point Mass 2

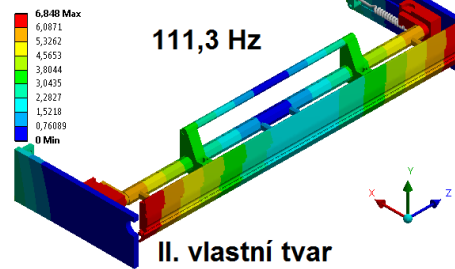


Vlastní tvary kmitu

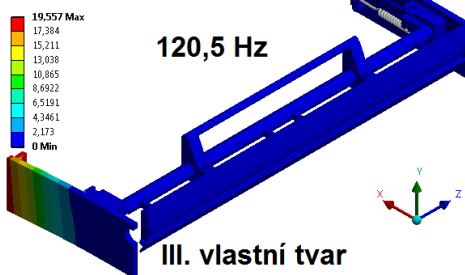
N: Modal výchozí varianta tužší vedení_V4
Total Deformation
Type: Total Deformation
Frequency: 57,654 Hz
Unit: mm
14.6.2015 10:08



N: Modal výchozí varianta tužší vedení_V4
Total Deformation 2
Type: Total Deformation
Frequency: 111,34 Hz
Unit: mm
14.6.2015 10:30



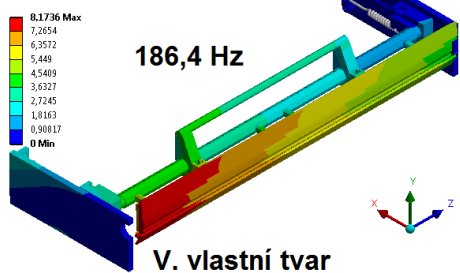
N: Modal výchozí varianta tužší vedení_V4
Total Deformation 3
Type: Total Deformation
Frequency: 120,53 Hz
Unit: mm
14.6.2015 10:32



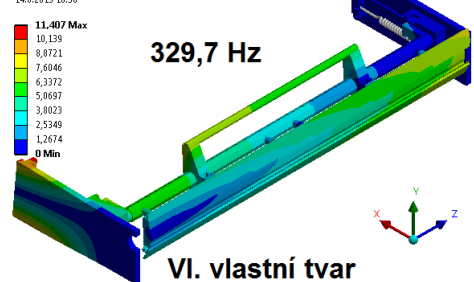
N: Modal výchozí varianta tužší vedení_V4
Total Deformation 4
Type: Total Deformation
Frequency: 165,47 Hz
Unit: mm
14.6.2015 10:33



N: Modal výchozí varianta tužší vedení_V4
Total Deformation 5
Type: Total Deformation
Frequency: 186,4 Hz
Unit: mm
14.6.2015 10:34



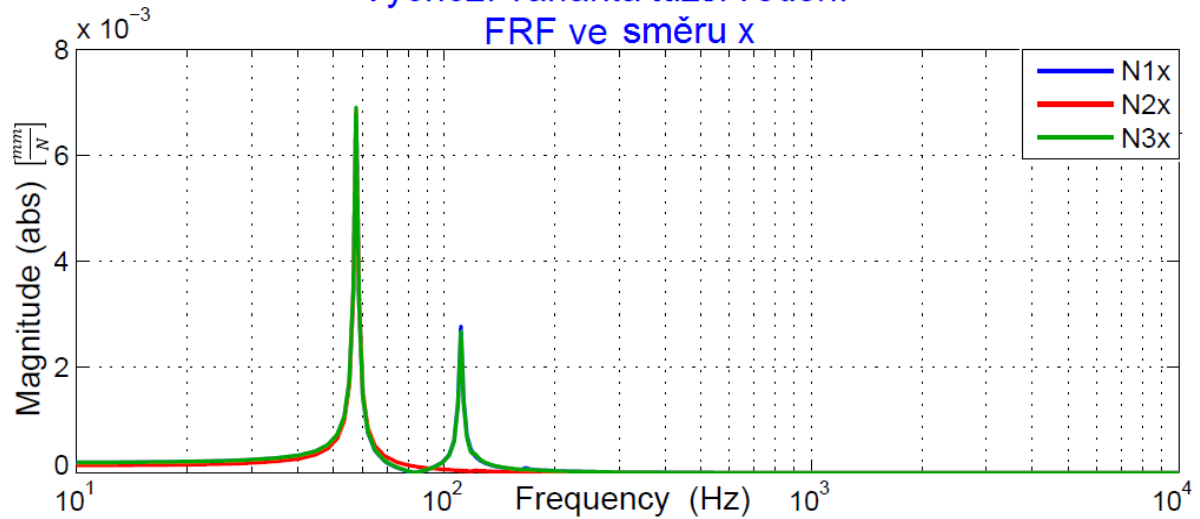
N: Modal výchozí varianta tužší vedení_V4
Total Deformation 6
Type: Total Deformation
Frequency: 329,72 Hz
Unit: mm
14.6.2015 10:36



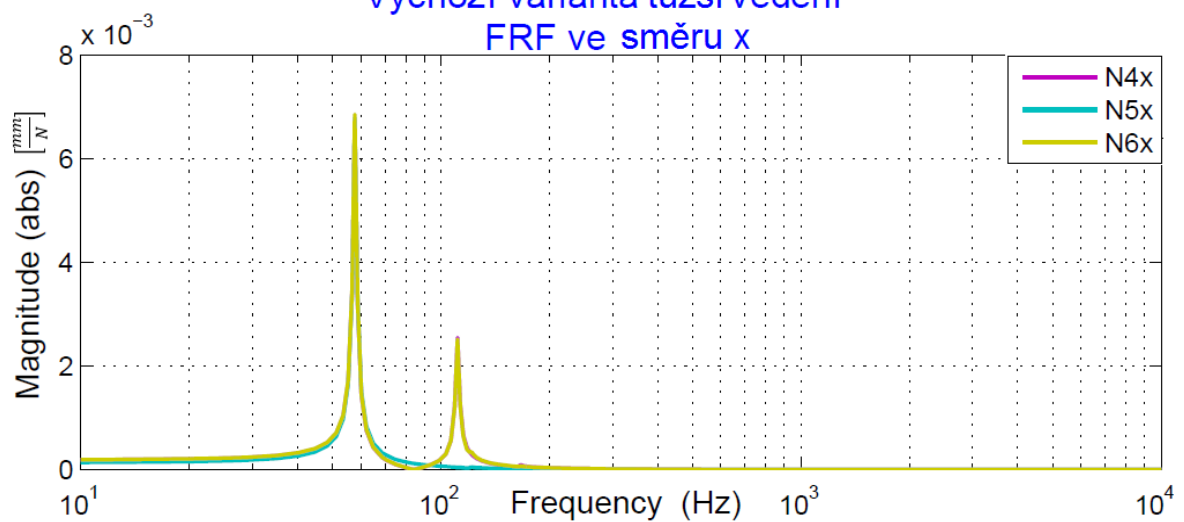
Harmonická analýza

Frekvenční přenosové funkce

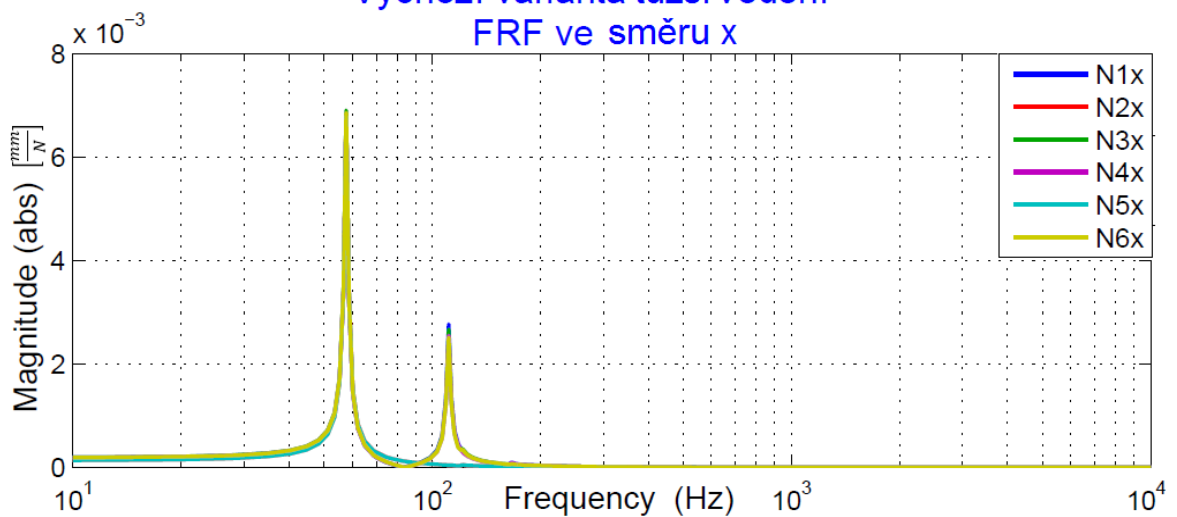
Výchozí varianta tužší vedení FRF ve směru x



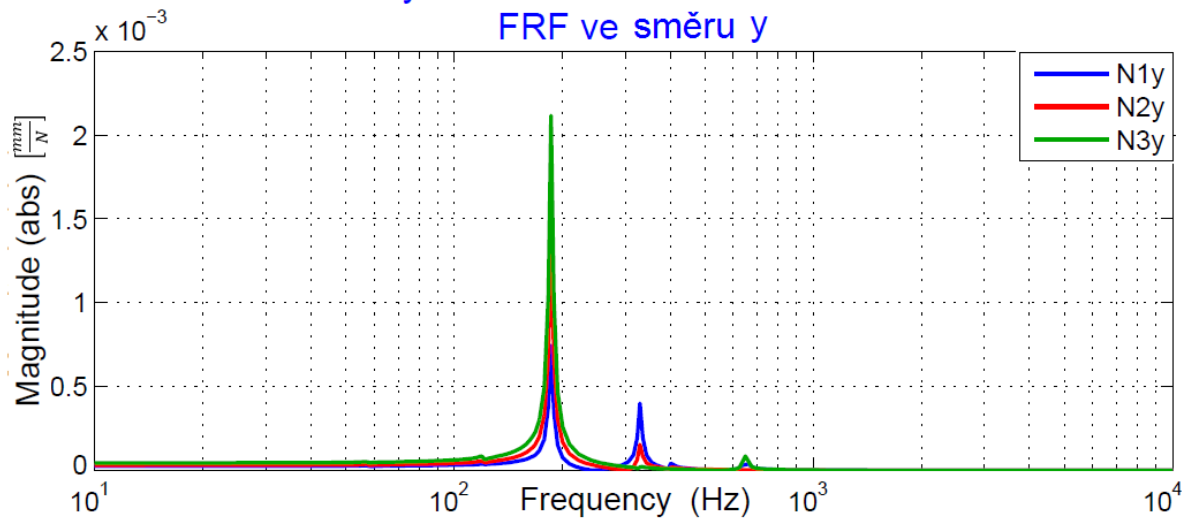
Výchozí varianta tužší vedení FRF ve směru x



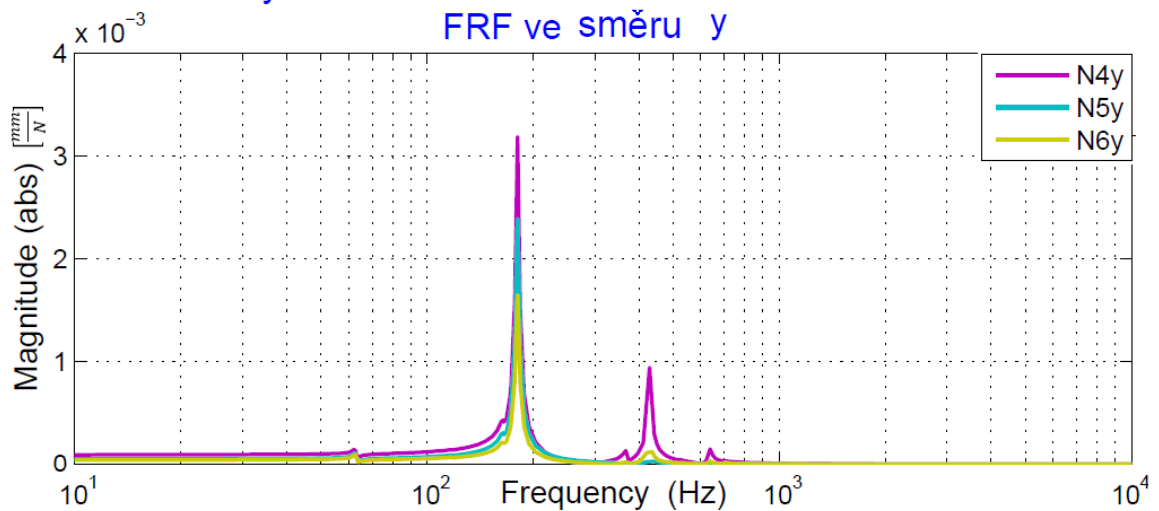
Výchozí varianta tužší vedení FRF ve směru x



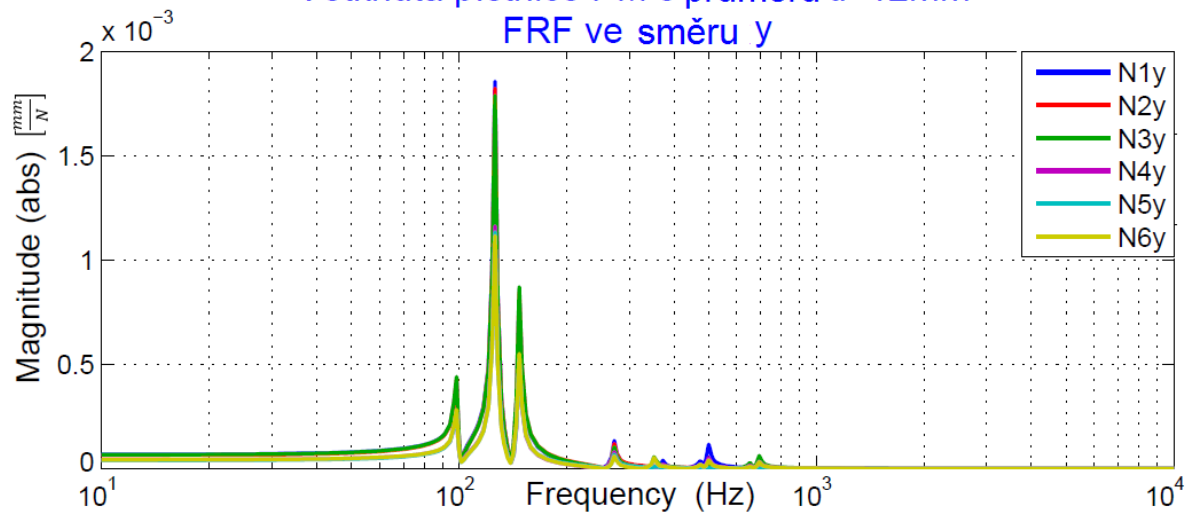
Výchozí varianta tužší vedení FRF ve směru y



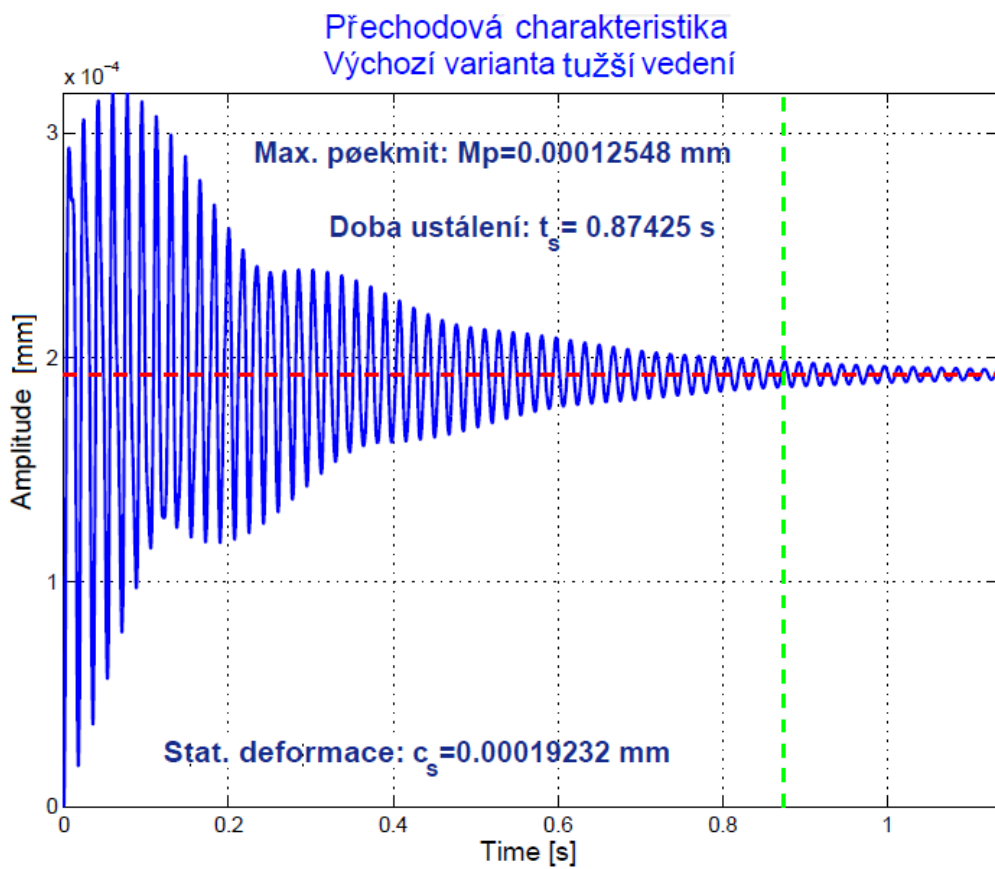
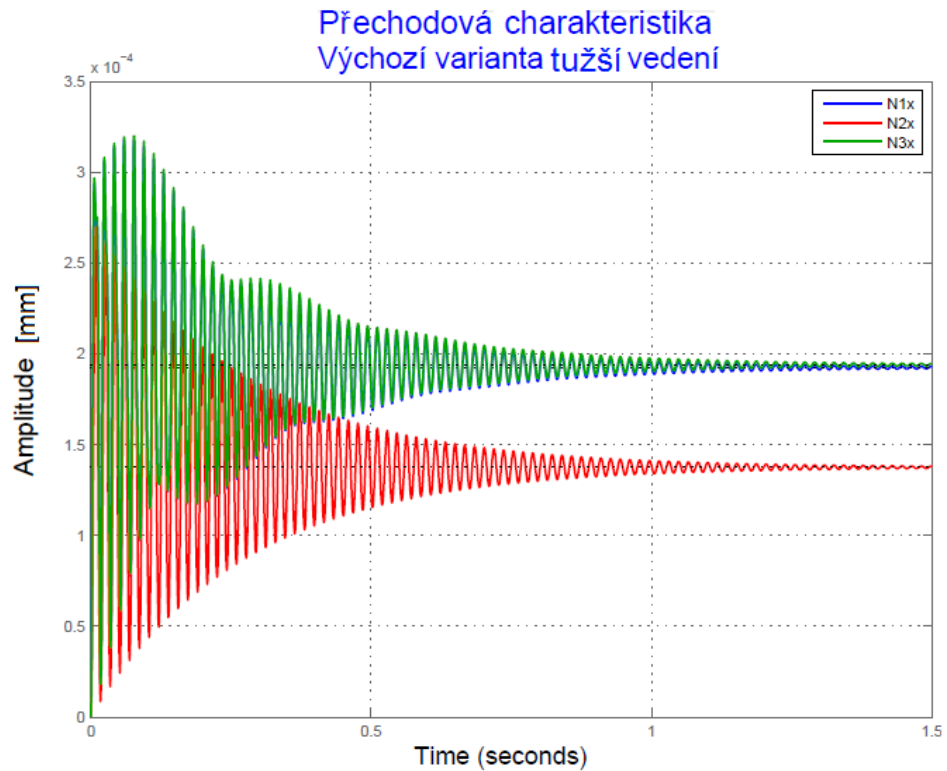
Výchozí varianta s novou odlehčenou RK FRF ve směru y



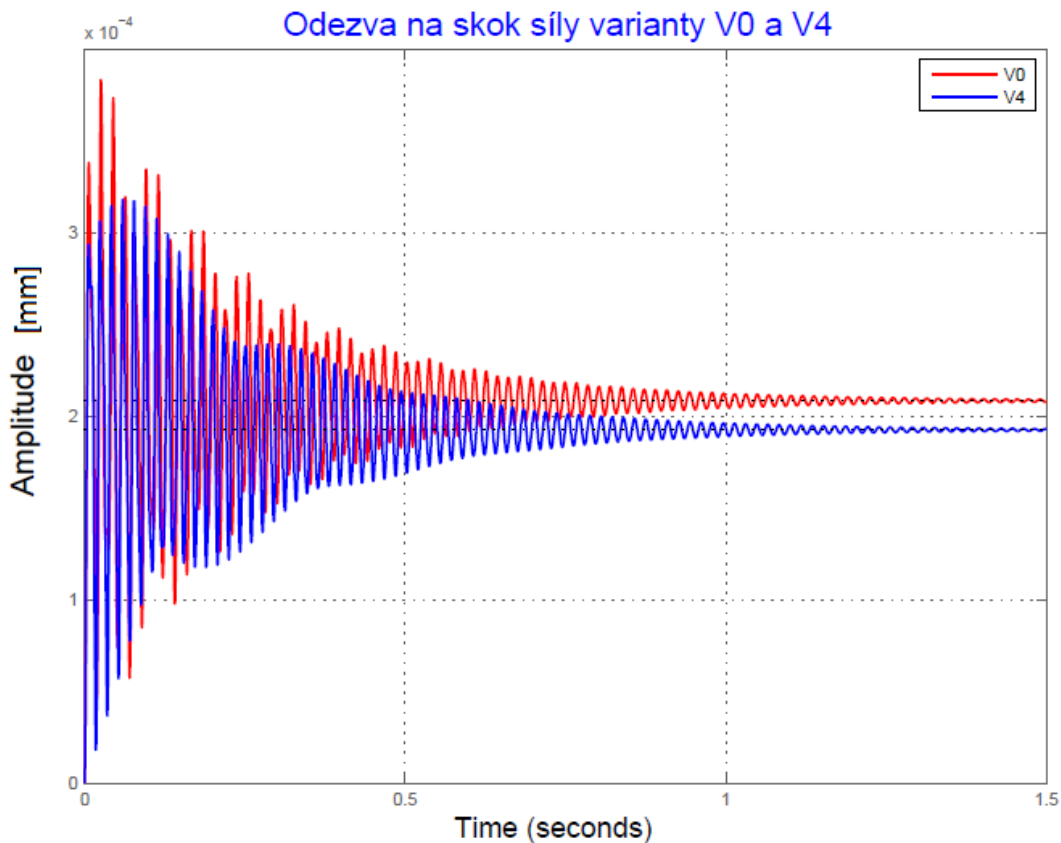
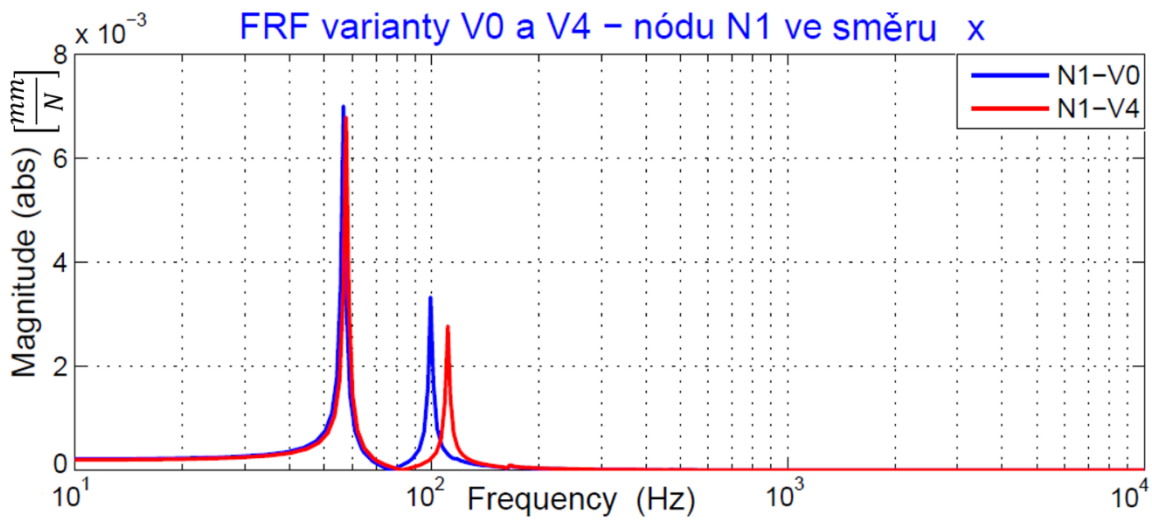
Vetknutá pístnice PM o průměru d=12mm FRF ve směru y



Přechodová charakteristika



Porovnání s původní variantou V0

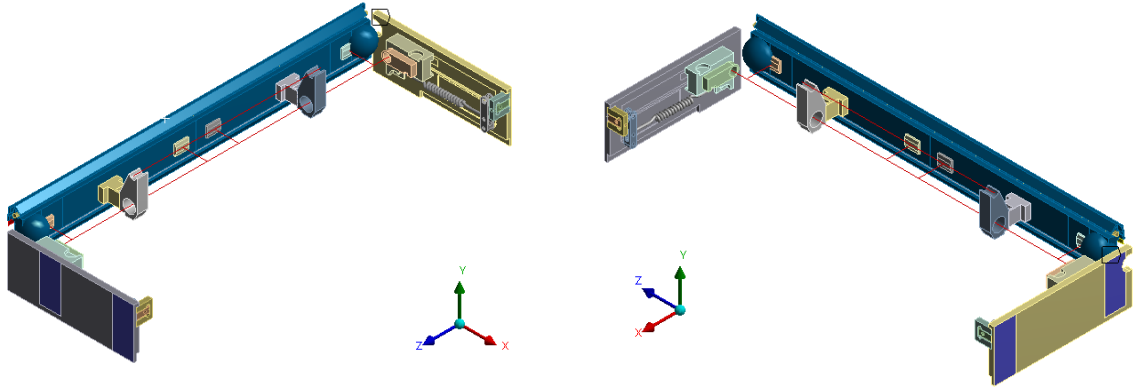


Varianta	Ω_{1i} [Hz]	$\Delta\Omega_i$ [%]	α_{1i} [$\frac{\mu m}{N}$]	$\Delta\alpha_i$ [%]	c_{si} [$\frac{\mu m}{N}$]	Δc_{si} [%]	t_s [s]
V0	56,7	-	7	-	0,21	-	0,79
V4	57,7	1,8 ⊕	6,78	3,1 ⊕	0,196	6,7 ⊕	0,87

Varianta V5 – ukotvení bočních desek

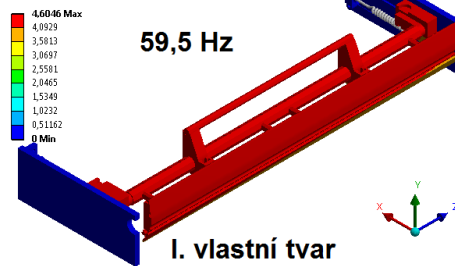
Modální analýza

Strukturální model

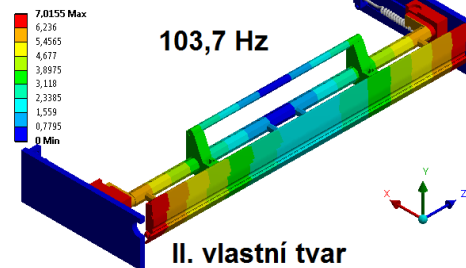


Vlastní tvary kmitu

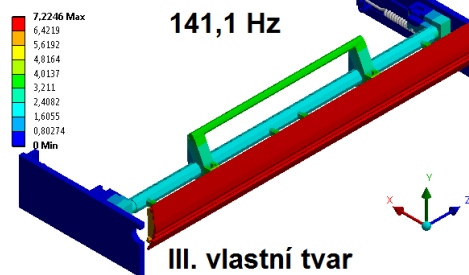
P: Modal výchozí varianta ukotvení desek_V5
Total Deformation
Type: Total Deformation
Frequency: 59,515 Hz
Unit: mm
14.6.2015 15:09



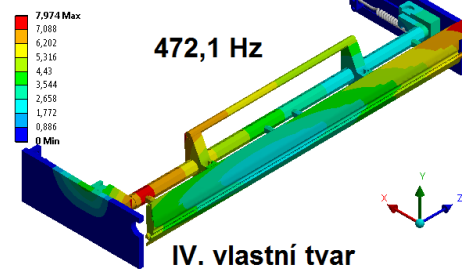
P: Modal výchozí varianta ukotvení desek_V5
Total Deformation 2
Type: Total Deformation
Frequency: 103,67 Hz
Unit: mm
14.6.2015 15:11



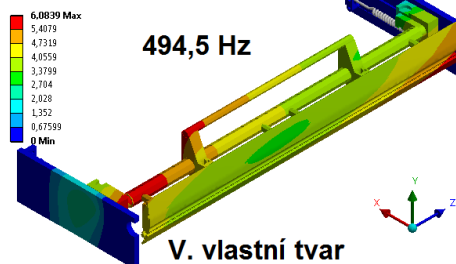
P: Modal výchozí varianta ukotvení desek_V5
Total Deformation 3
Type: Total Deformation
Frequency: 141,06 Hz
Unit: mm
14.6.2015 15:12



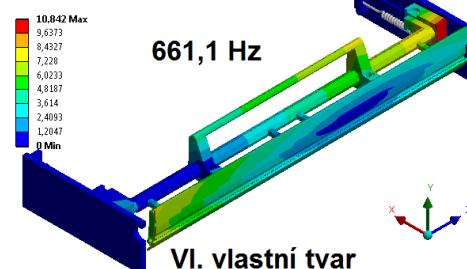
P: Modal výchozí varianta ukotvení desek_V5
Total Deformation 4
Type: Total Deformation
Frequency: 472,11 Hz
Unit: mm
14.6.2015 15:13



P: Modal výchozí varianta ukotvení desek_V5
Total Deformation 5
Type: Total Deformation
Frequency: 494,49 Hz
Unit: mm
14.6.2015 15:15



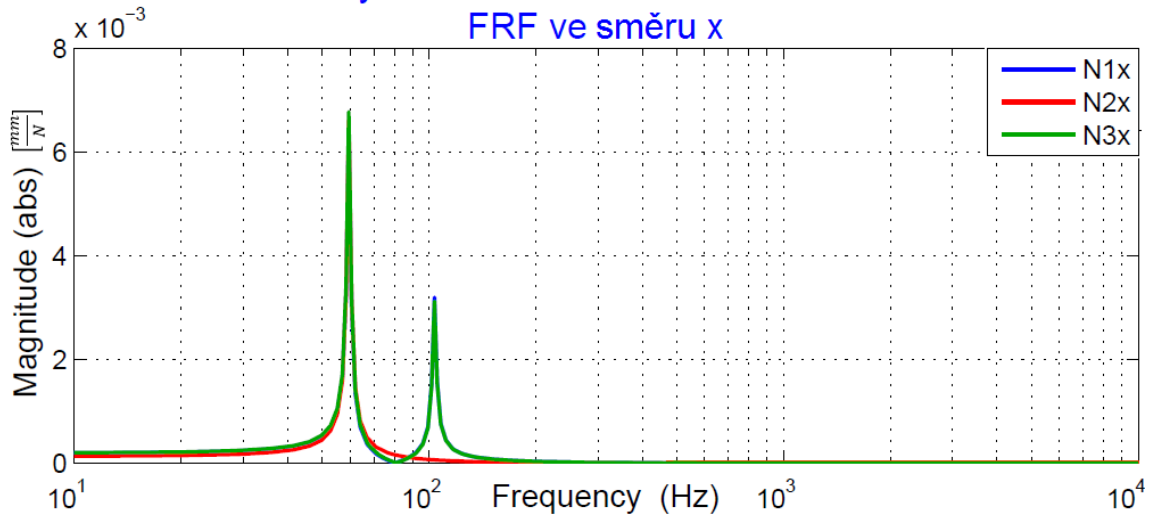
P: Modal výchozí varianta ukotvení desek_V5
Total Deformation 6
Type: Total Deformation
Frequency: 661,09 Hz
Unit: mm
14.6.2015 15:16



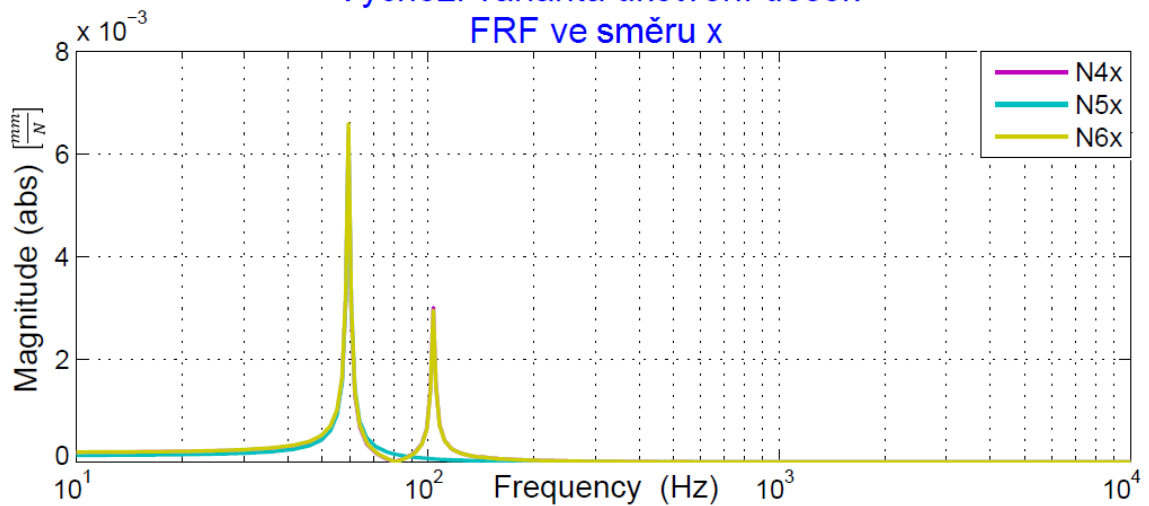
Harmonická analýza

Frekvenční přenosové funkce

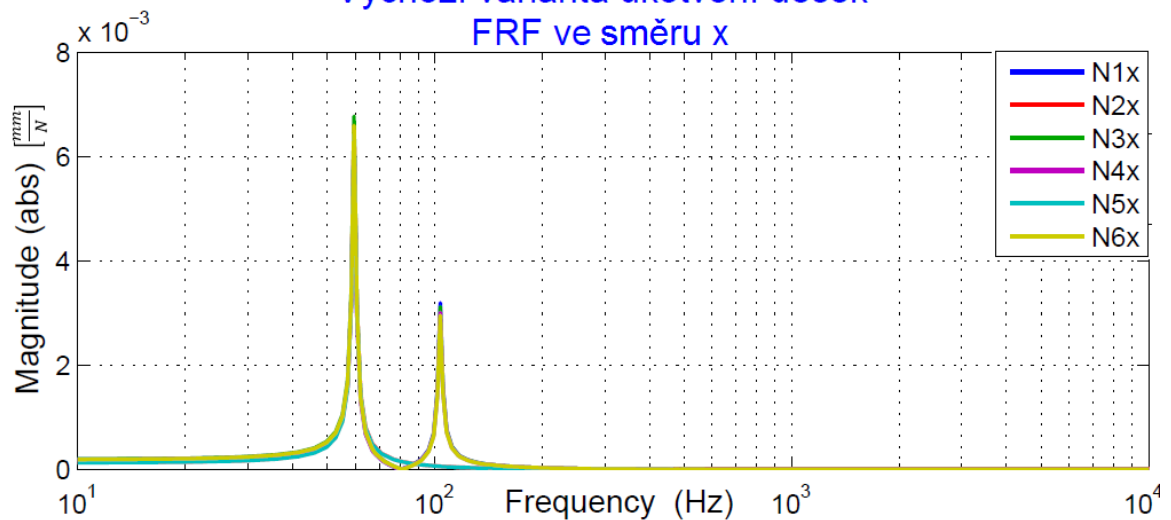
Výchozí varianta ukotvení desek FRF ve směru x



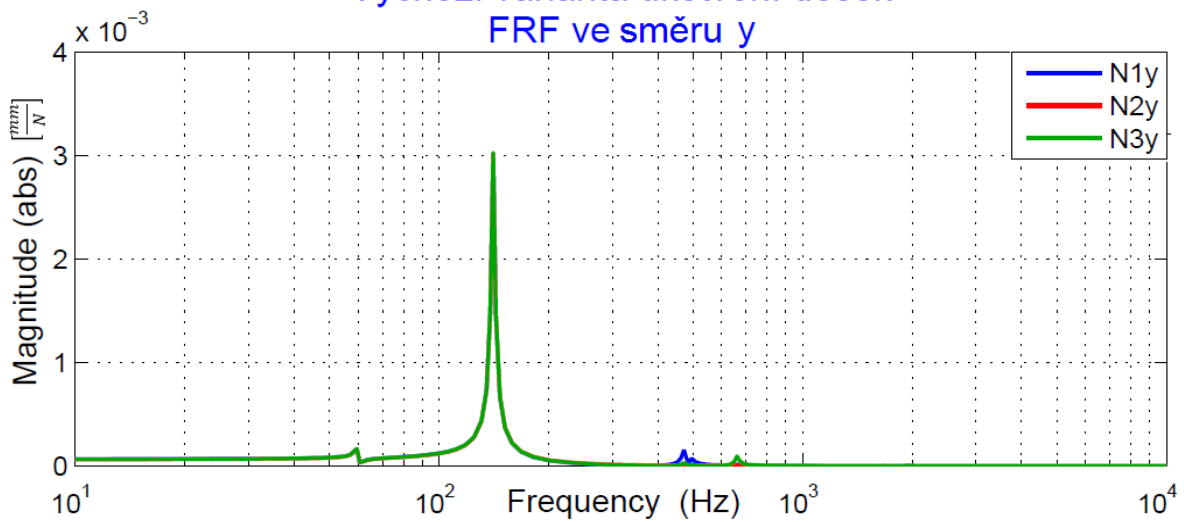
Výchozí varianta ukotvení desek FRF ve směru x



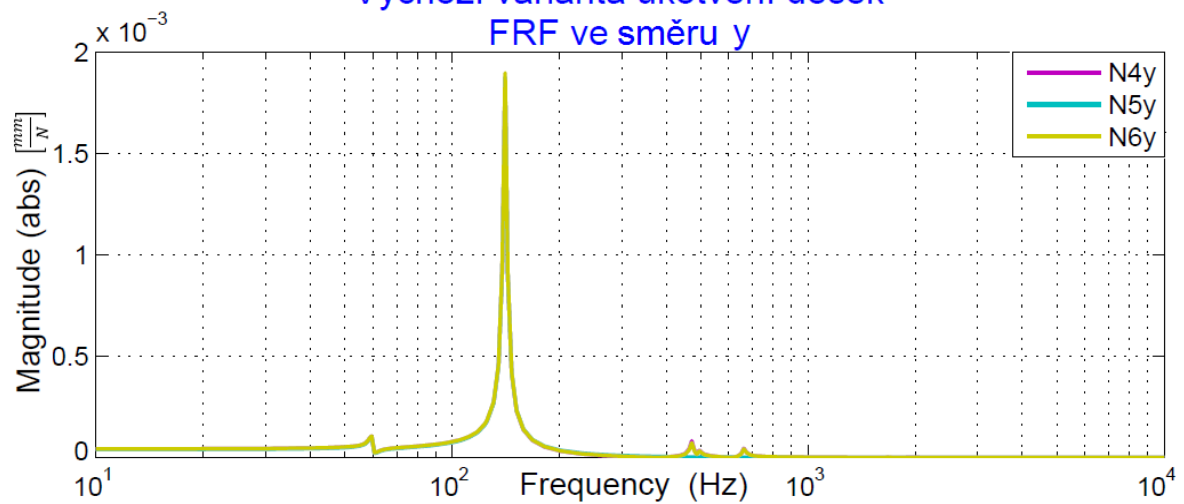
Výchozí varianta ukotvení desek FRF ve směru x



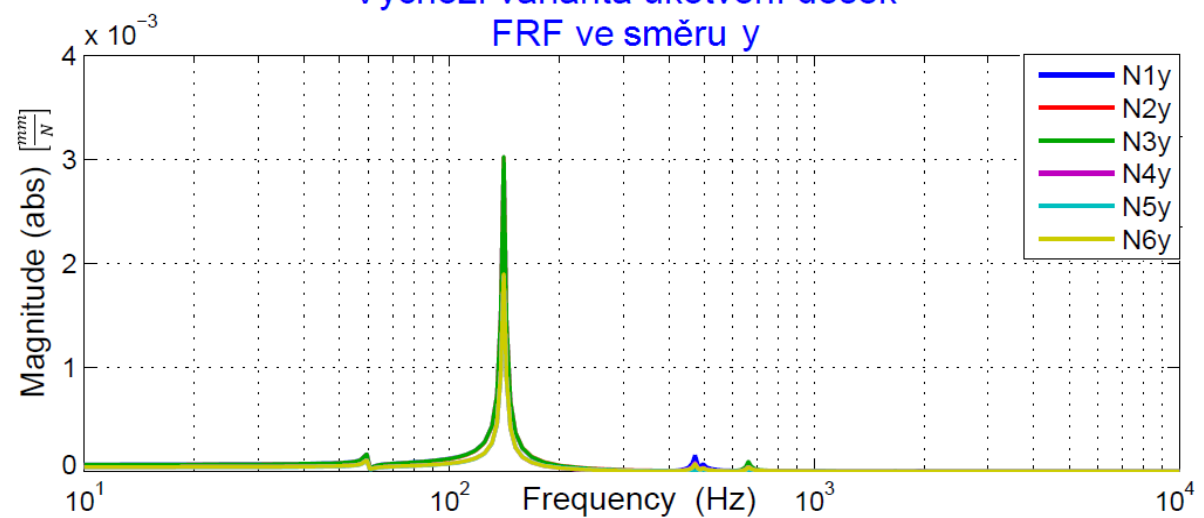
Výchozí varianta ukotvení desek
FRF ve směru y



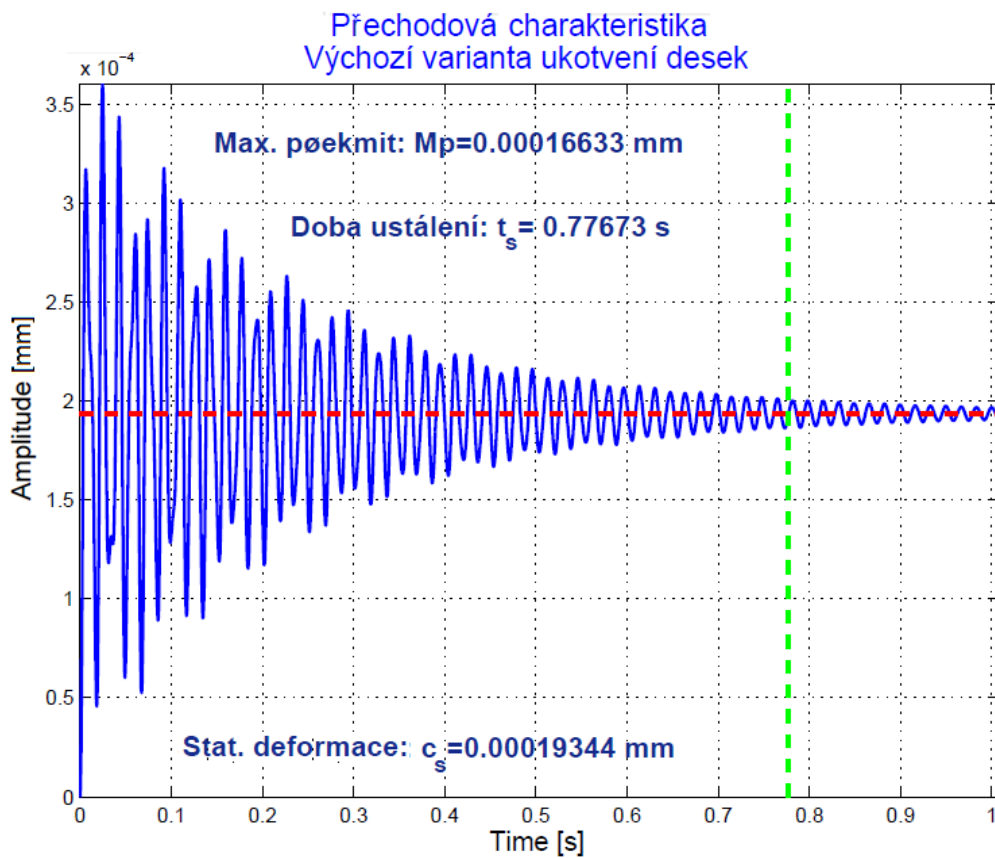
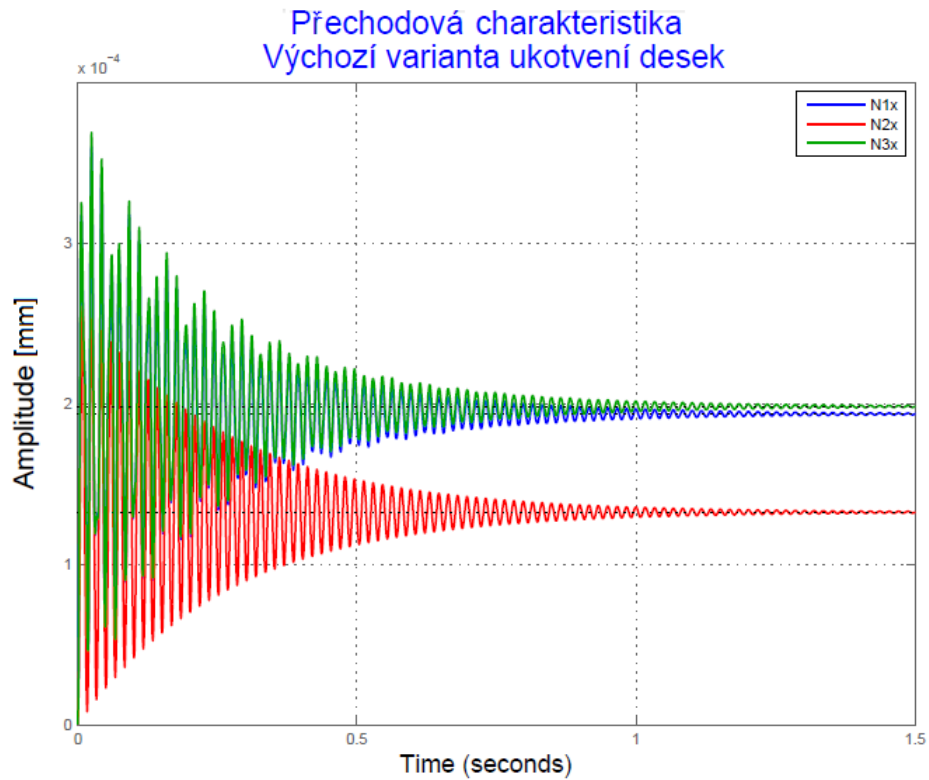
Výchozí varianta ukotvení desek
FRF ve směru y



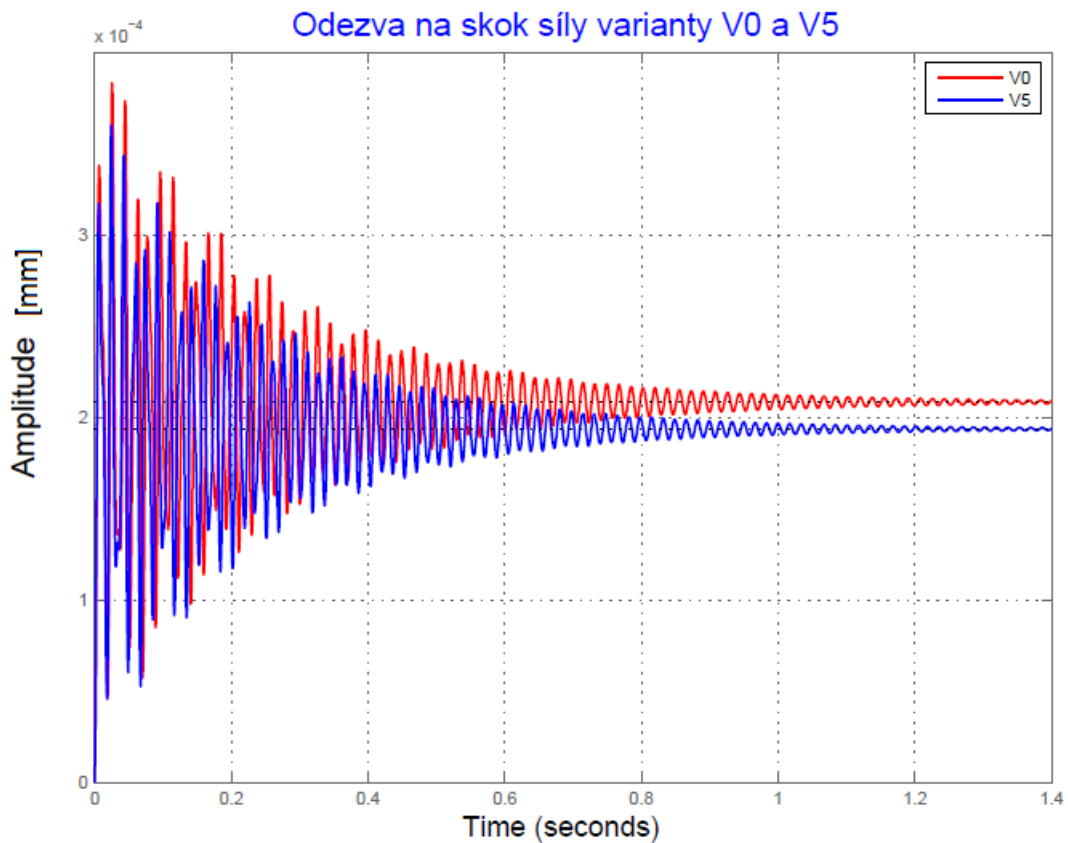
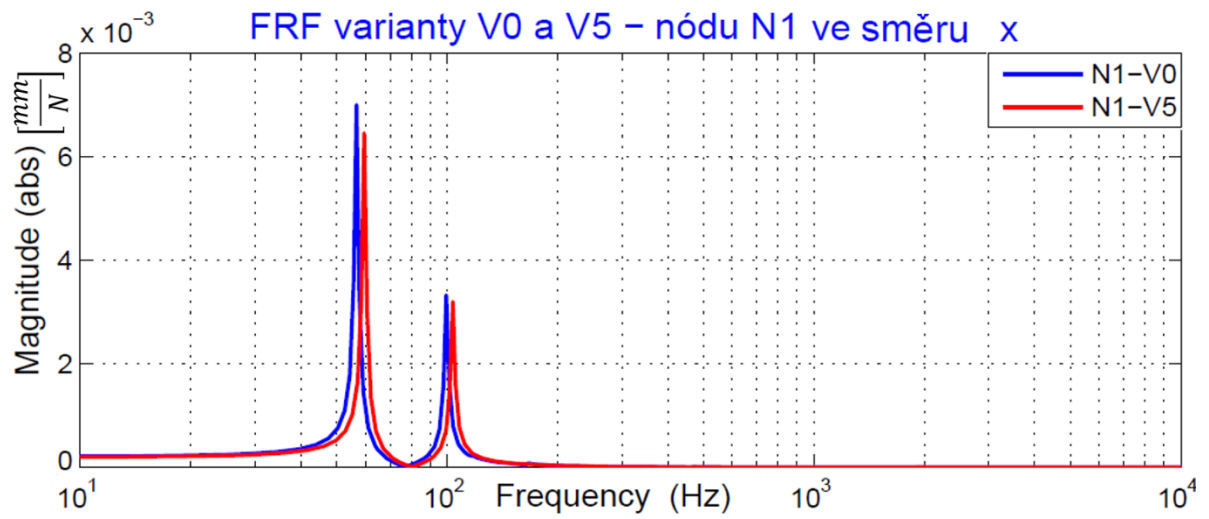
Výchozí varianta ukotvení desek
FRF ve směru y



Přechodová charakteristika



Porovnání s původní variantou V0

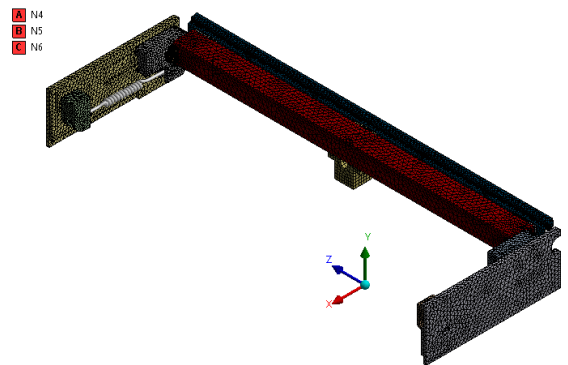
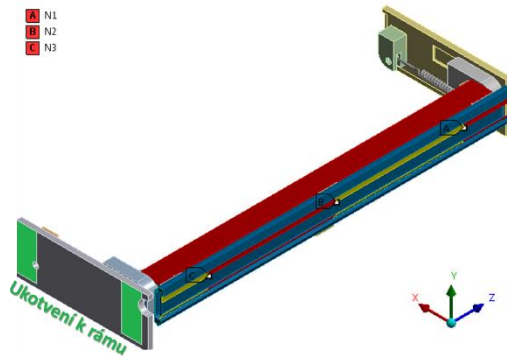


Varianta	Ω_{1i} [Hz]	$\Delta\Omega_i$ [%]	α_{1i} [$\frac{\mu m}{N}$]	$\Delta\alpha_i$ [%]	c_{si} [$\frac{\mu m}{N}$]	Δc_{si} [%]	t_s [s]
V0	56,7	-	7	-	0,21	-	0,79
V5	59,5	4,9 ⊕	6,45	7,9 ⊕	0,197	6,7 ⊕	0,78

Výsledné řešení

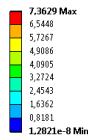
Modální analýza

Strukturální model

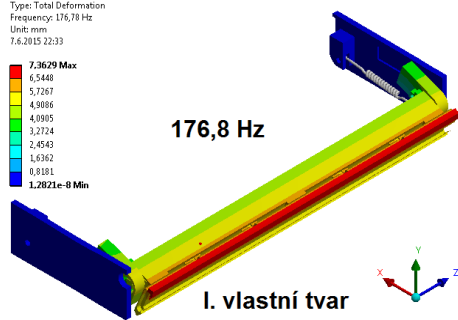


Vlastní tvary kmitu

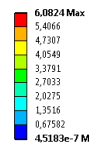
Total Deformation
Type: Total Deformation
Frequency: 176,78 Hz
Unit: mm
7.6.2015 22:33



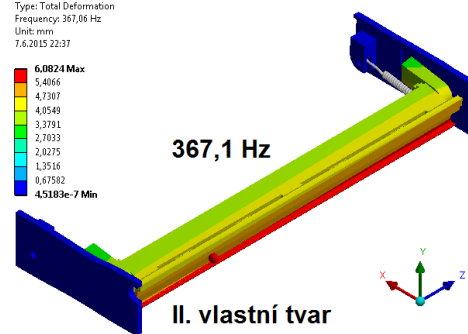
176,8 Hz



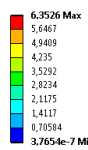
Total Deformation 2
Type: Total Deformation
Frequency: 367,06 Hz
Unit: mm
7.6.2015 22:37



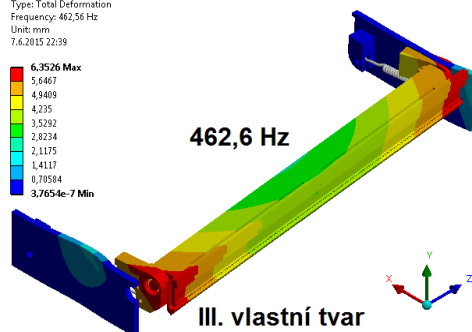
367,1 Hz



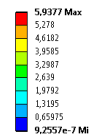
Total Deformation 3
Type: Total Deformation
Frequency: 462,56 Hz
Unit: mm
7.6.2015 22:39



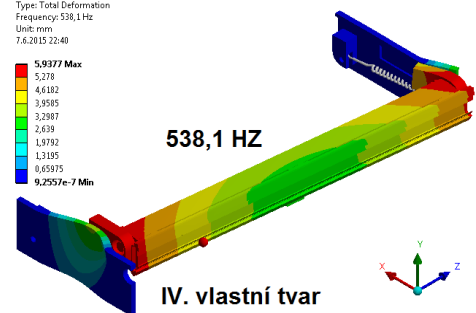
462,6 Hz



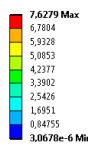
Total Deformation 4
Type: Total Deformation
Frequency: 538,1 Hz
Unit: mm
7.6.2015 22:40



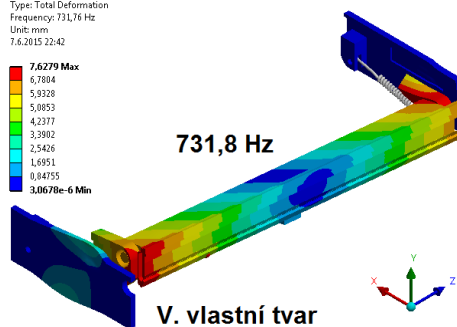
538,1 Hz



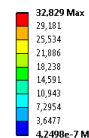
Total Deformation 5
Type: Total Deformation
Frequency: 731,76 Hz
Unit: mm
7.6.2015 22:42



731,8 Hz



Total Deformation 6
Type: Total Deformation
Frequency: 900,43 Hz
Unit: mm
7.6.2015 22:44



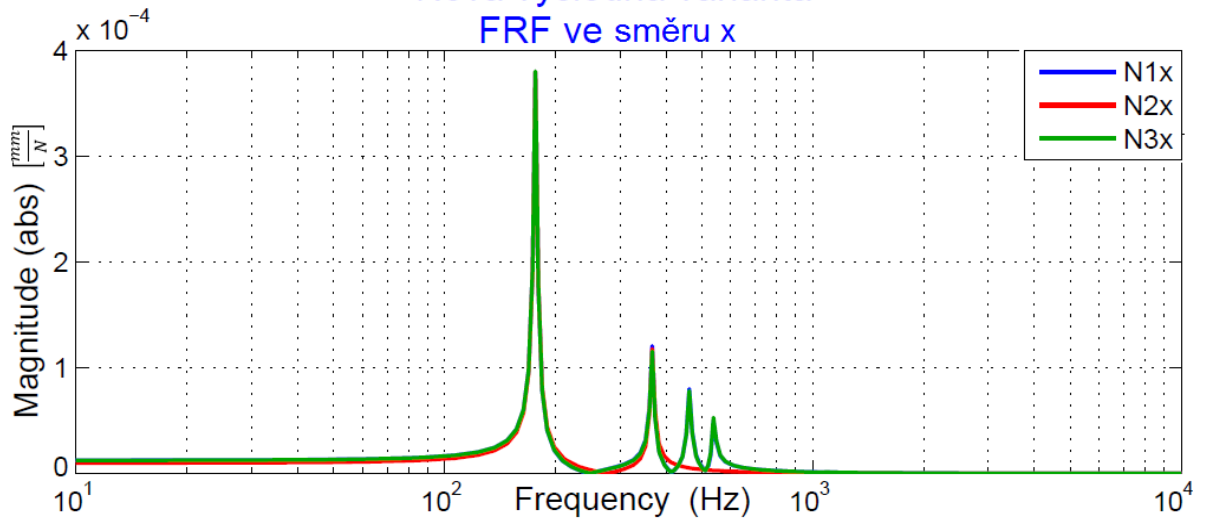
900,4 Hz



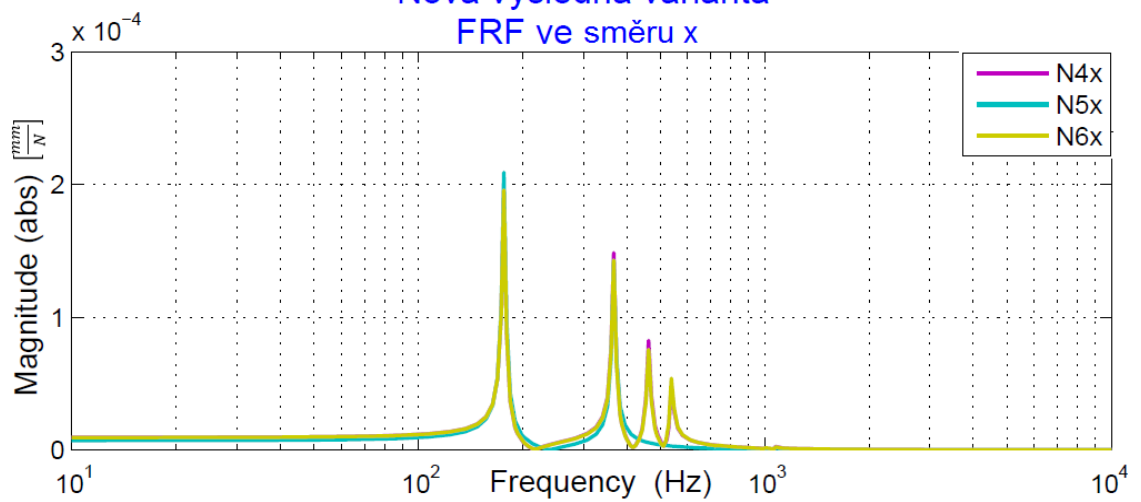
Harmonická analýza

Frekvenční přenosové funkce

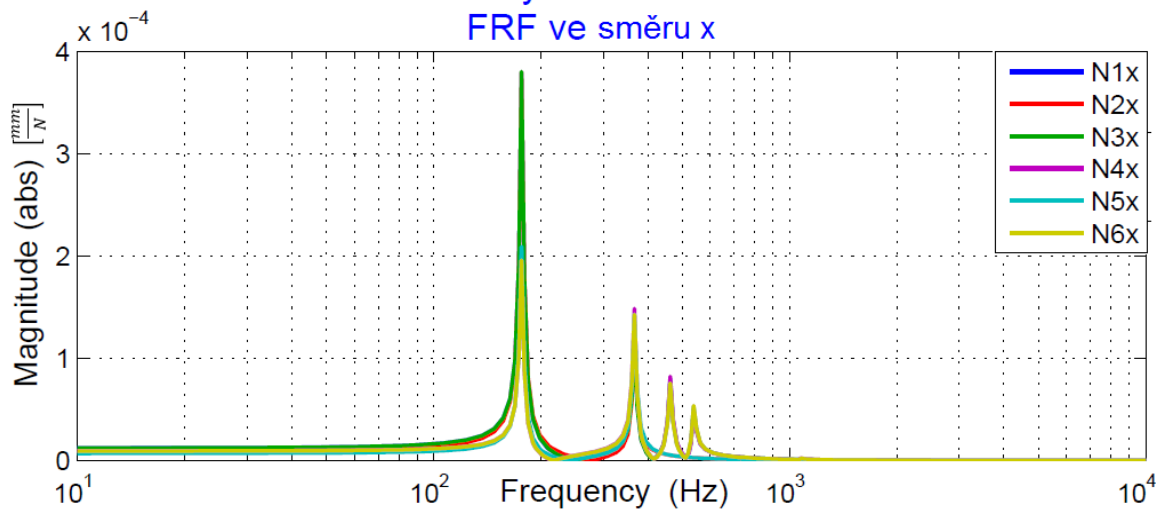
Nová výsledná varianta
FRF ve směru x



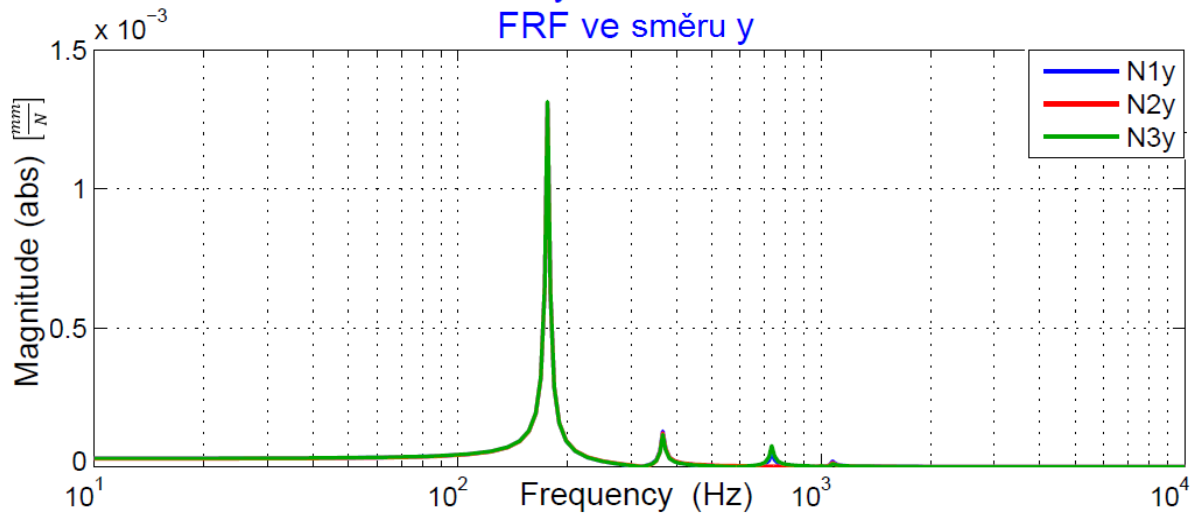
Nová výsledná varianta
FRF ve směru x



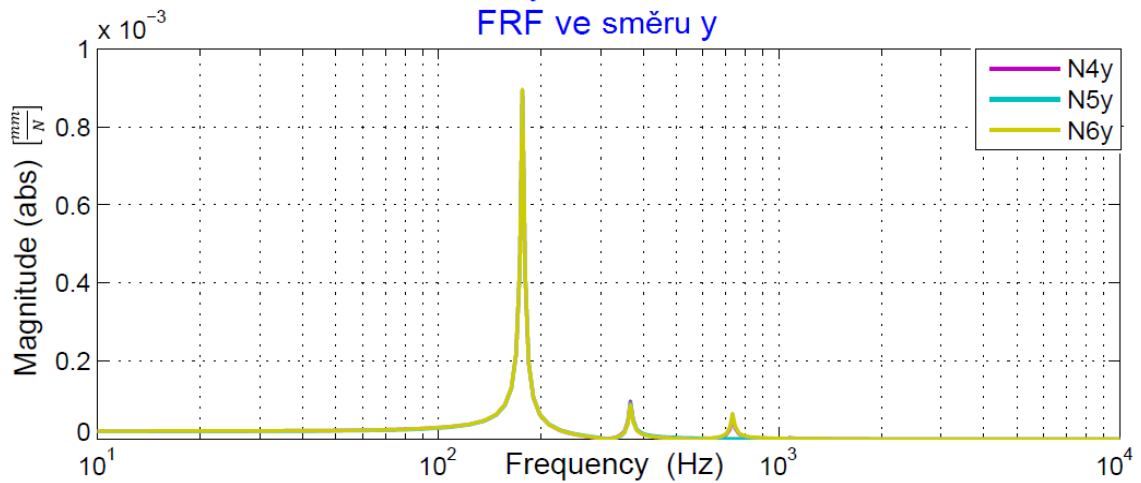
Nová výsledná varianta
FRF ve směru x



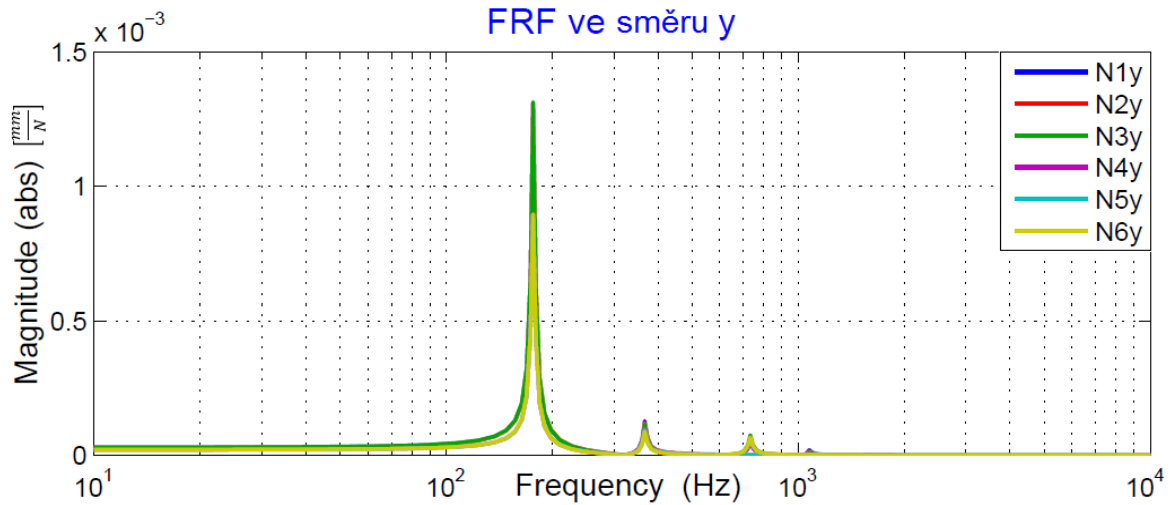
Nová výsledná varianta
FRF ve směru y



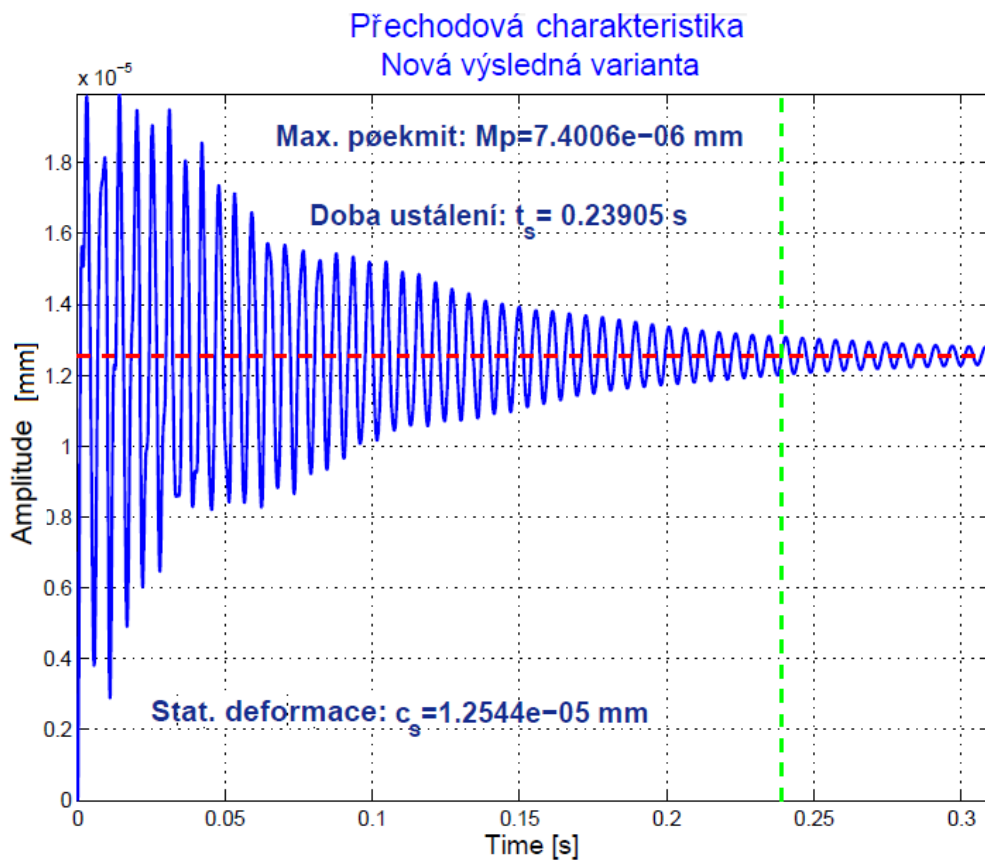
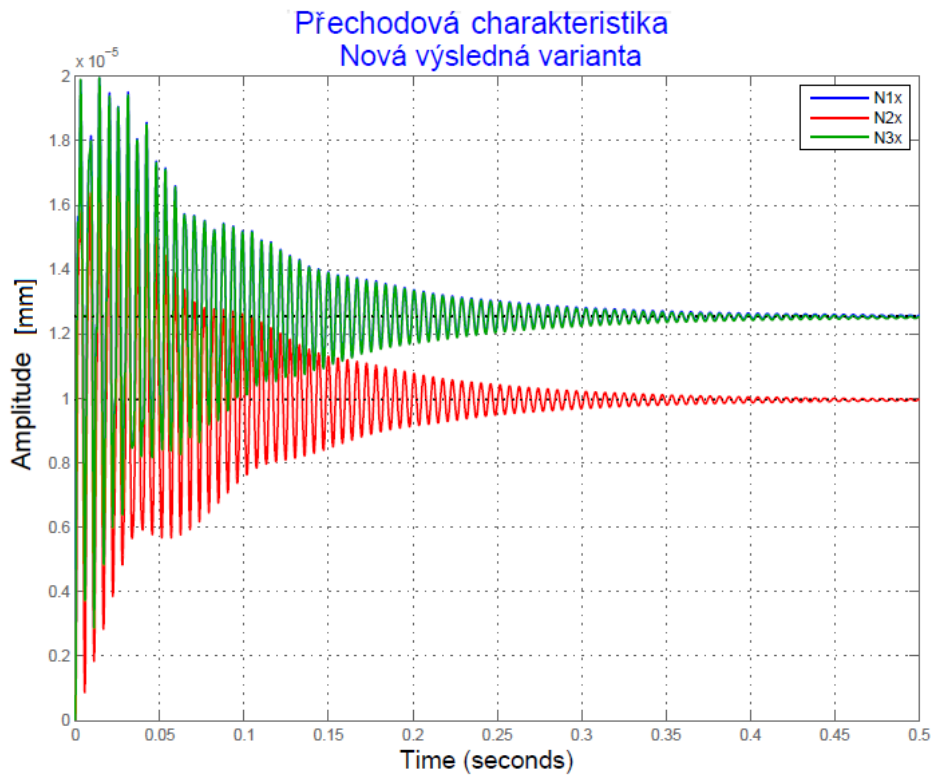
Nová výsledná varianta
FRF ve směru y



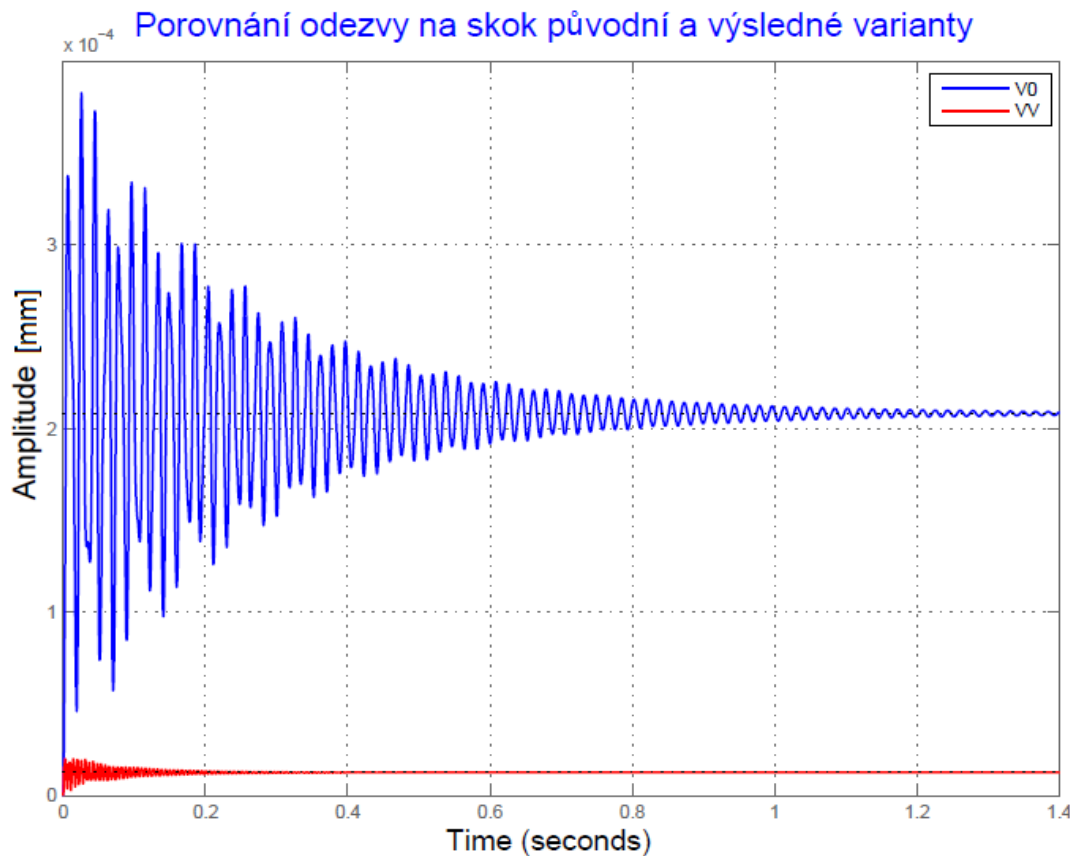
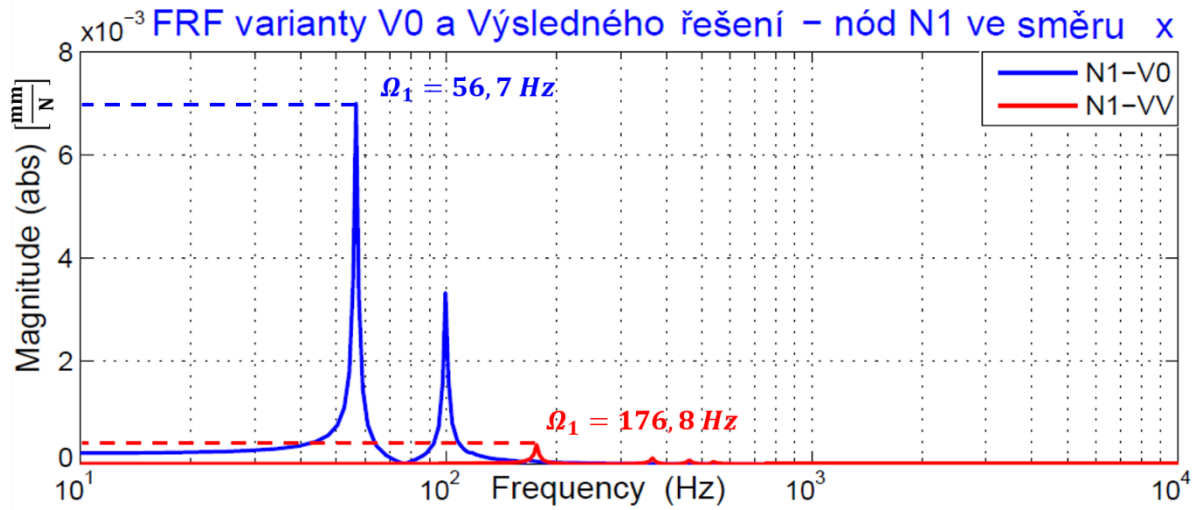
Nová výsledná varianta
FRF ve směru y



Přechodová charakteristika



Porovnání s původní variantou V0



Varianta	$\Omega_{1i} [\text{Hz}]$	$\Delta\Omega_i [\%]$	$\alpha_{1i} \left[\frac{\mu\text{m}}{\text{N}}\right]$	$\Delta\alpha_i [\%]$	$c_{si} \left[\frac{\mu\text{m}}{\text{N}}\right]$	$\Delta c_{si} [\%]$	$t_s [\text{s}]$
V0	56,7	-	7	-	0,21	-	0,79
VV	176,8	211,8 \oplus	0,379	94,6 \oplus	0,0125	94 \oplus	0,24