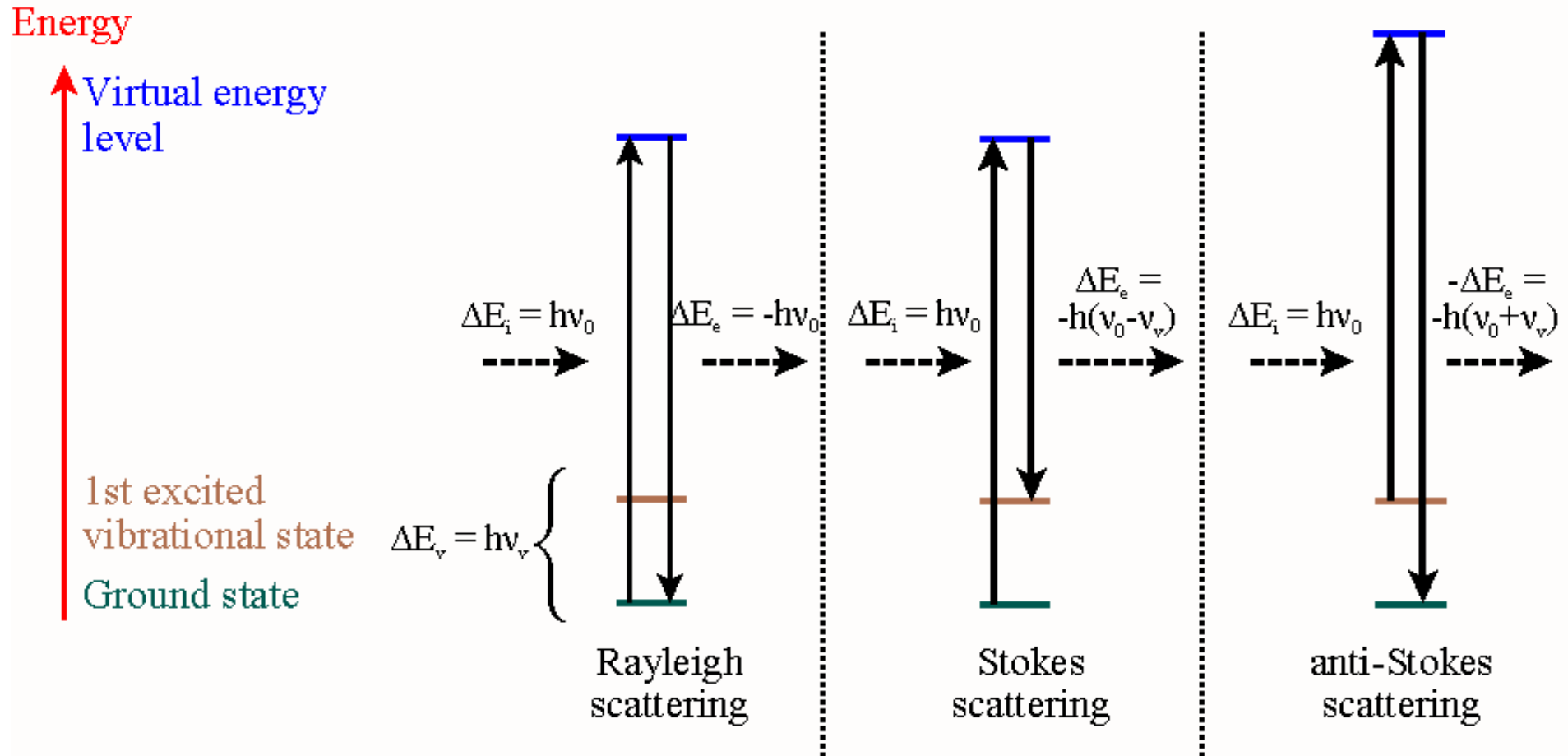
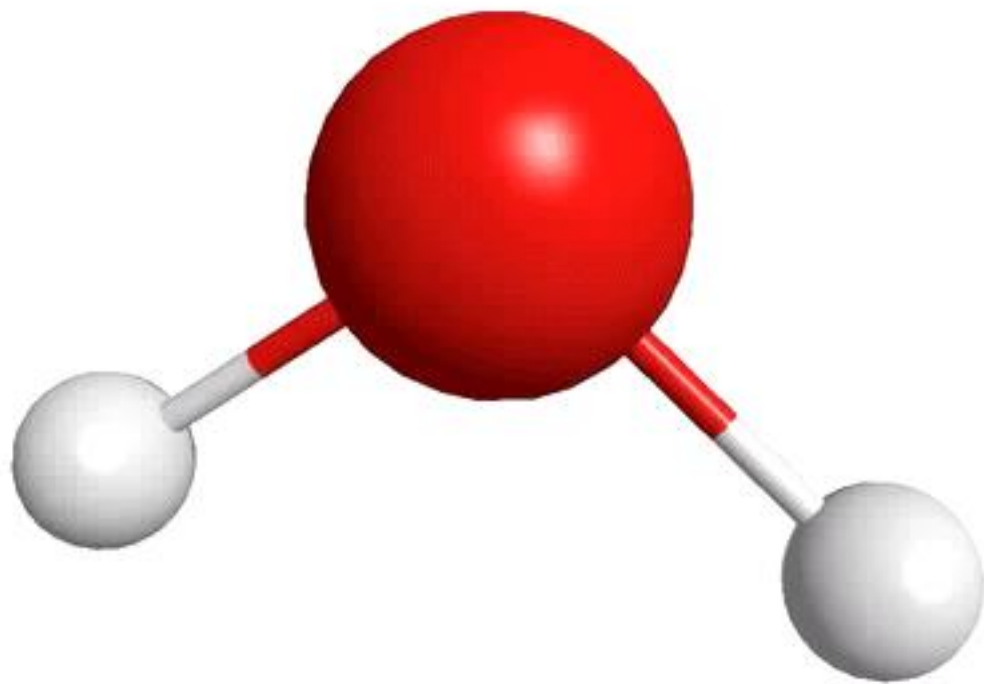


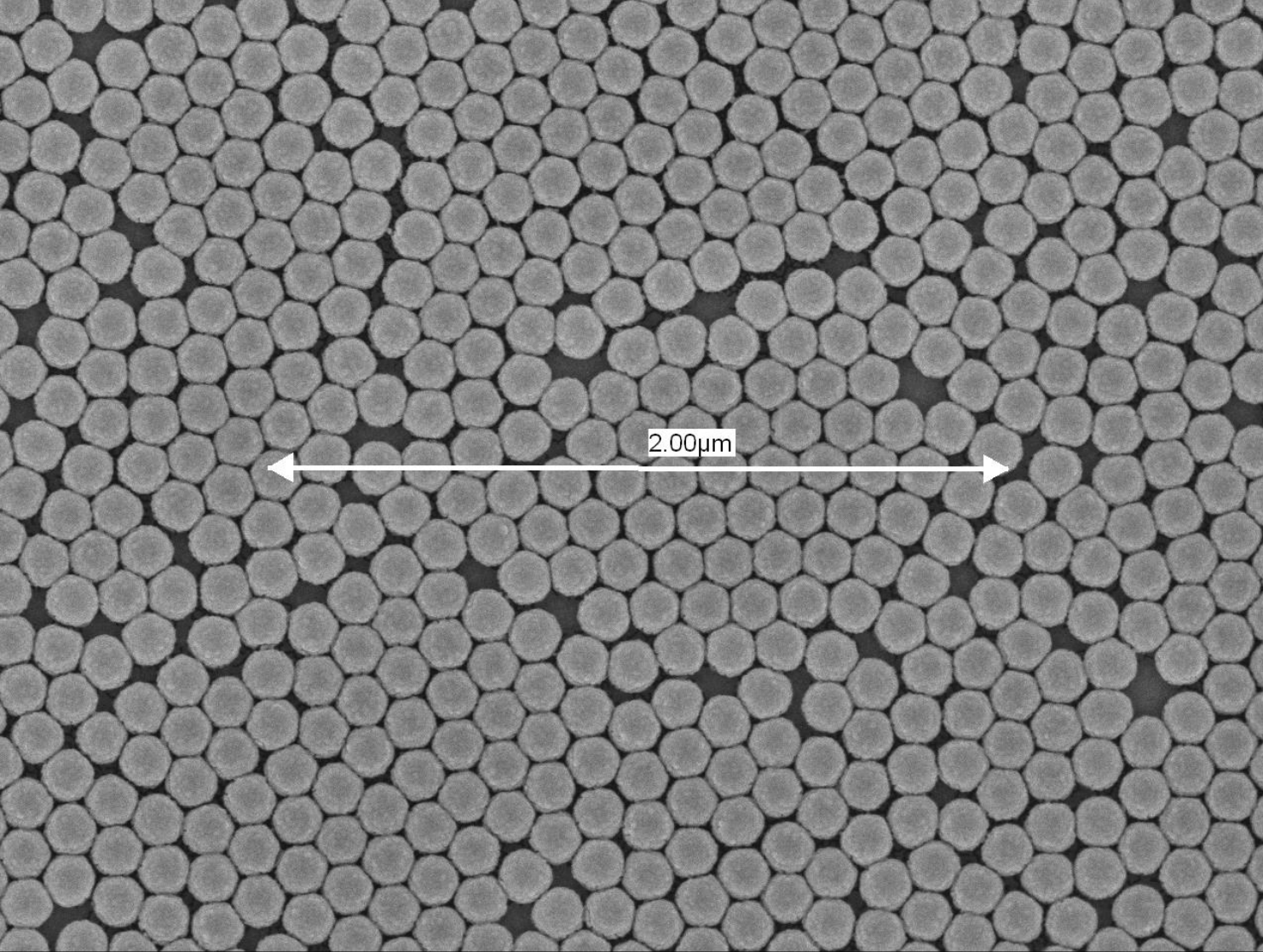
Zlaté nanostruktury pro extrémní zesílení ramanova signálu

Jiří Husák, Linda Mičicová

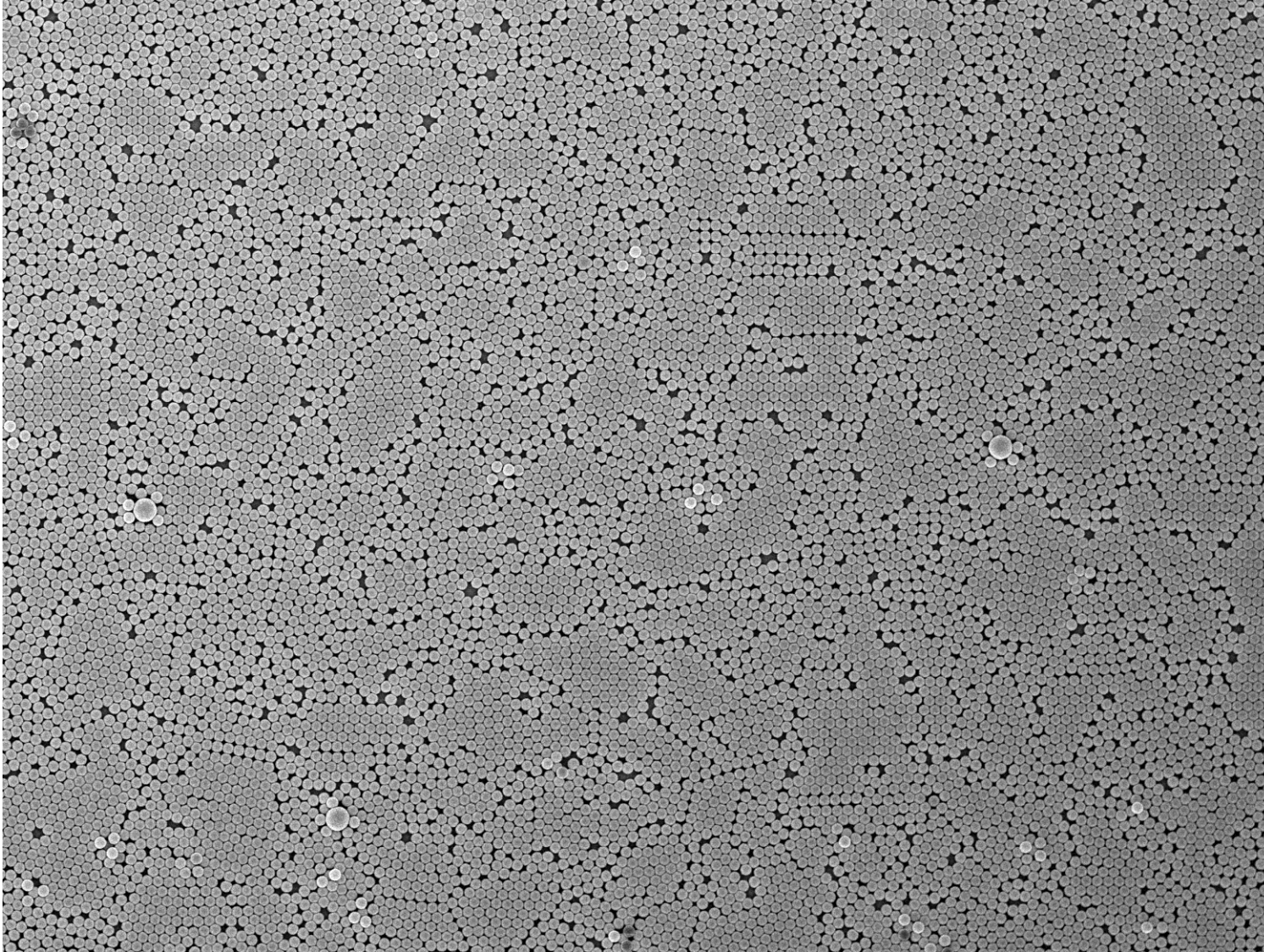
Co to je Ramanův jev?







X 35,000 5.0kV SEI 100nm JEOL 5/22/2023
WD 3.0mm 2:26:02



X 7,500

5.0kV SEI

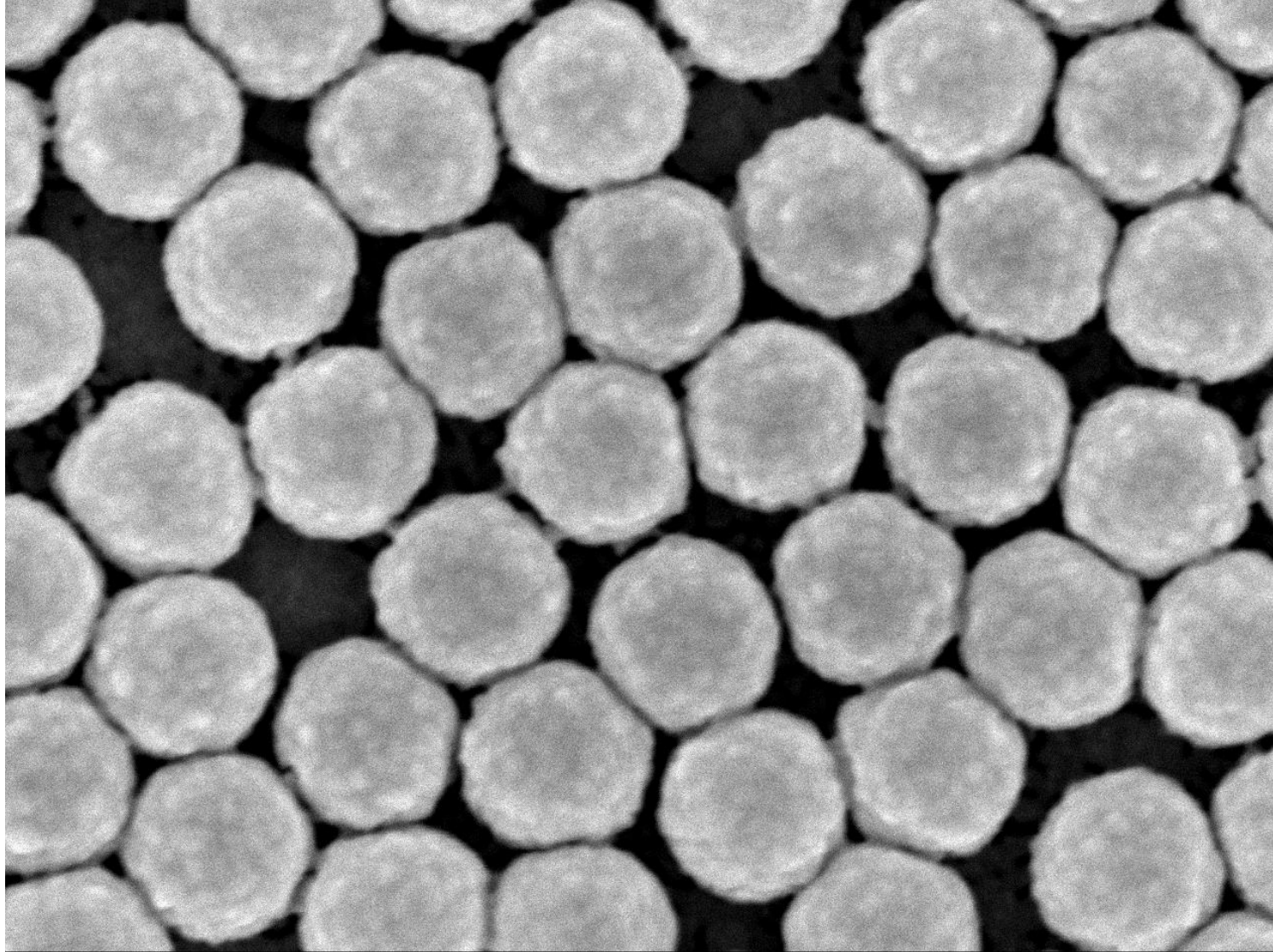
SEM

WD 3.0mm

1 μm JEOL

5/22/2023

1:36:40



X 130,000

5.0kV

SEI

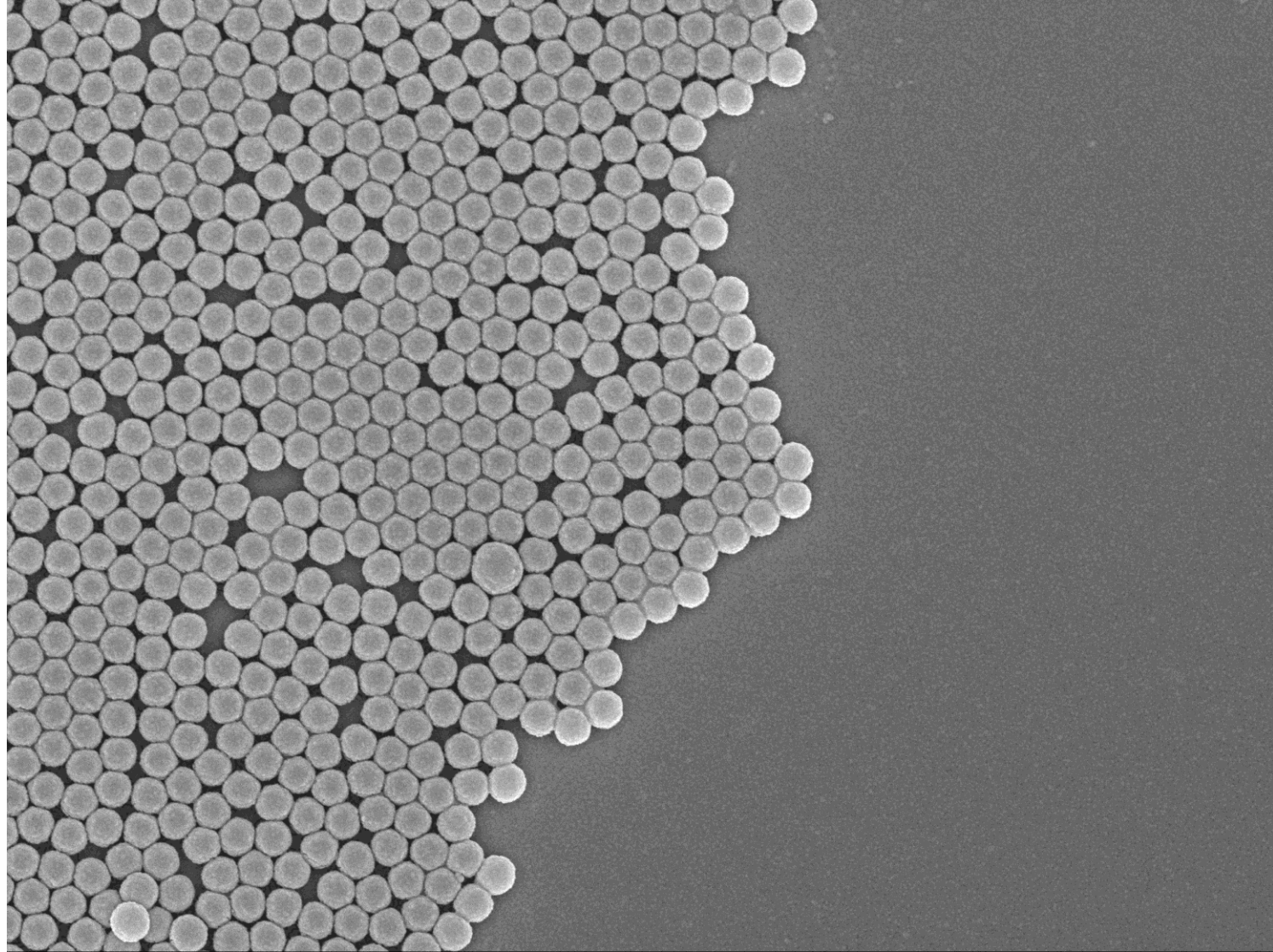
100nm JEOL

SEM

WD 3.0mm

5/22/2023

2:13:38



X 25,000

5.0kV SEI

1 μ m JEOL

SEM

5/22/2023

WD 3.0mm 1:29:56

Aplikace Ramanova Signálu

- Forenzní analytika
- Biomedicína a farmacie
- Analýzy materiálů

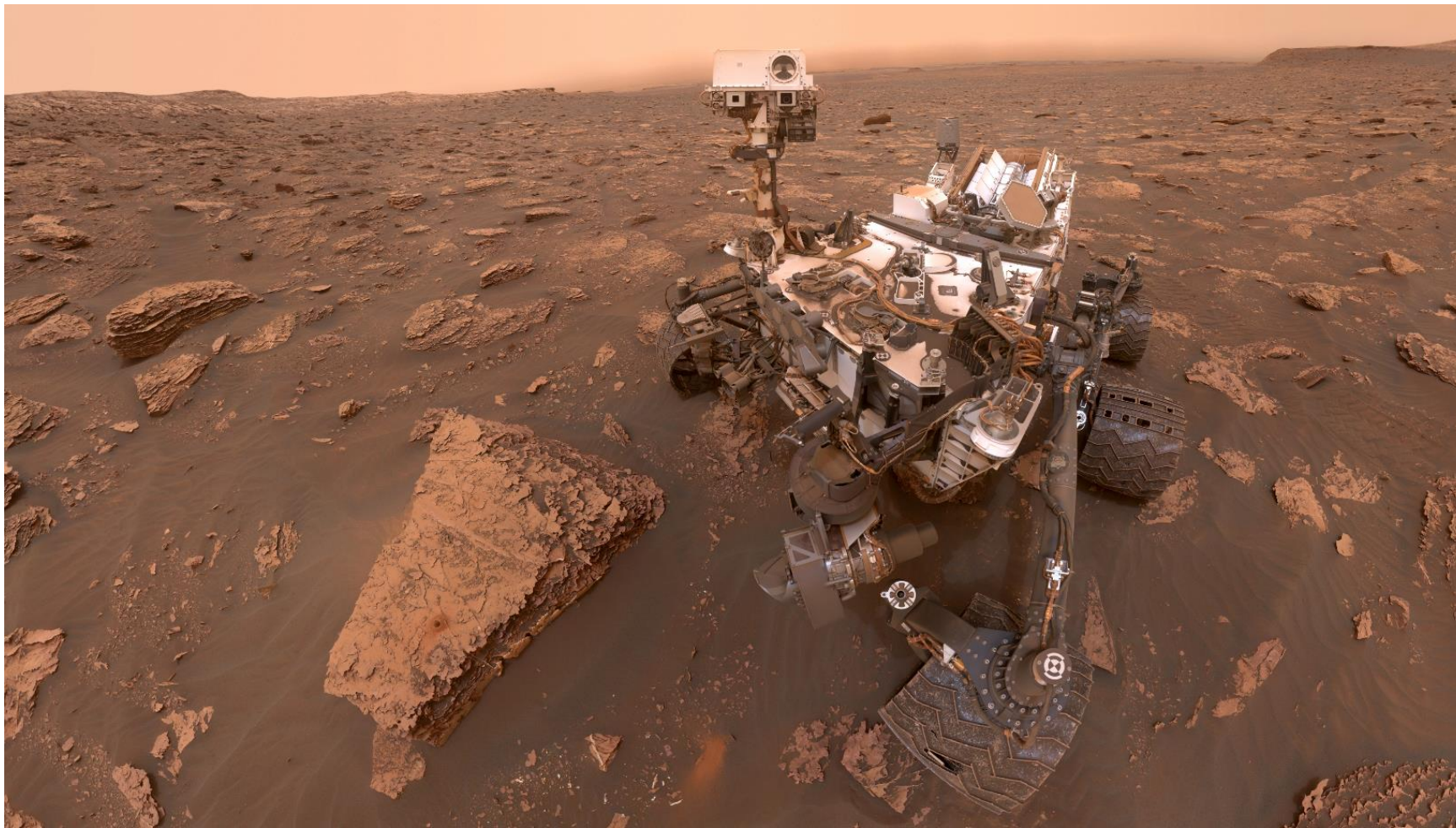
Forenzní analytika



Biomedicina a farmacie



Analýza materiálů



Budoucnost použití



Co jsme vlastně dělali?

- Měření
- Zpracovávání dat

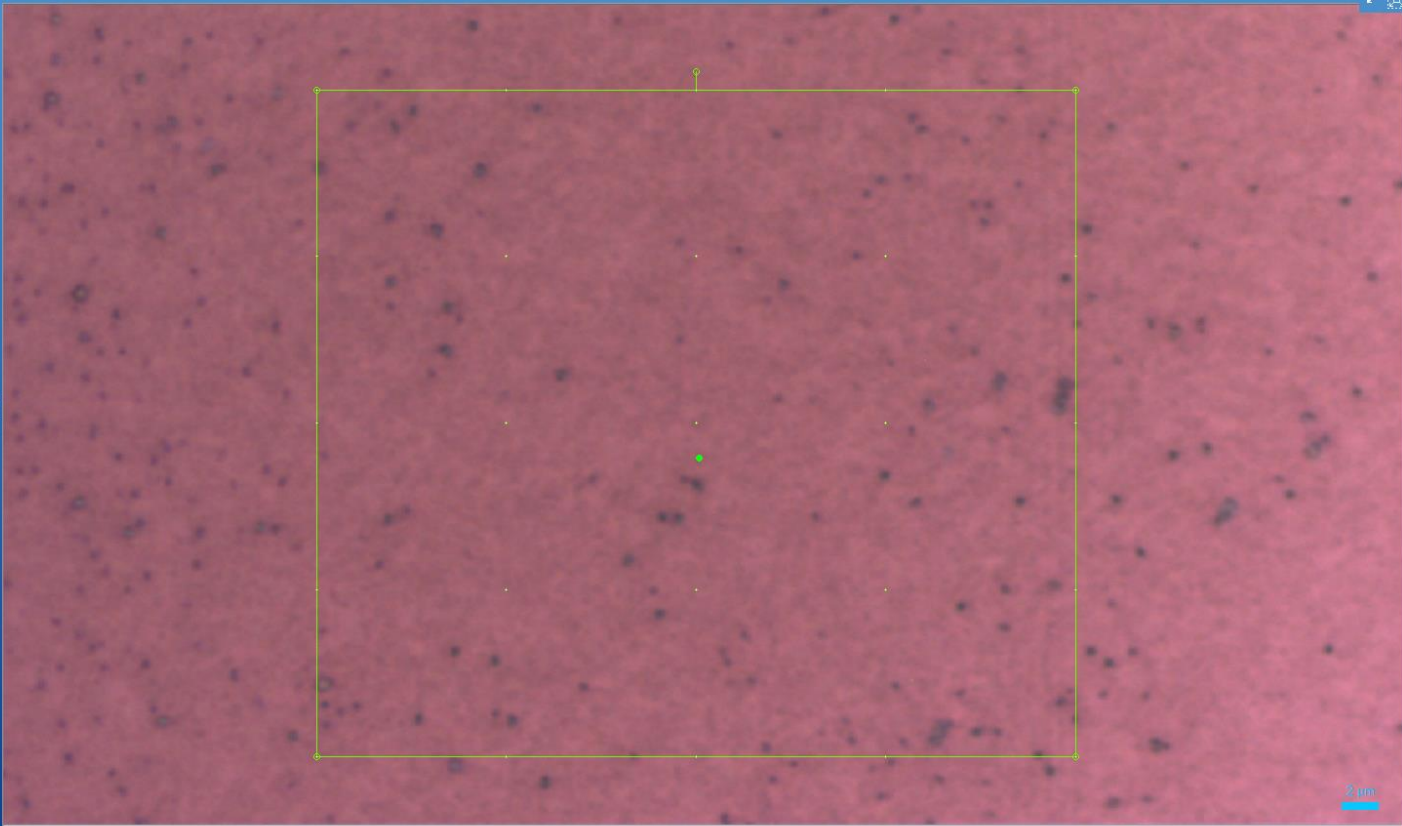
Měření



Měření

LabSpec 6 - HORIBA Scientific

Spectra Video Maps LabStore 3D CCD Image



Y (µm)

X (µm)

2 µm

STOP ALL

Analysis Display Methods Maintenance
Browser Acquisition Info Processing

Z limits & step -25 25 0.4
Acq. time (s) 0.3 Base
Range (cm⁻¹) 50 800

▲ Profile

▲ Spectrum
Acq. time (s) 5
Accumulation 3
Autofocus mode Off
Estimated time 17 sec

▲ Map
Scanning mode Point by point
Acq. time (s) 5
Accumulation 3
Autofocus mode Off
AF period (min) 0
Repetitive mode Off
Estimated time 6.38

	From	To	Size	Step
H	0.00	100.00	11	10.0
Z	-20.00	21.00	5	10.0
Y	-19.48	20.52	5	10.0
X	-20.36	19.64	5	10.0
↑	0.00	300.00	300	1.0

Map type: Rectangle
Total data points: 25
Skip center (%) 0

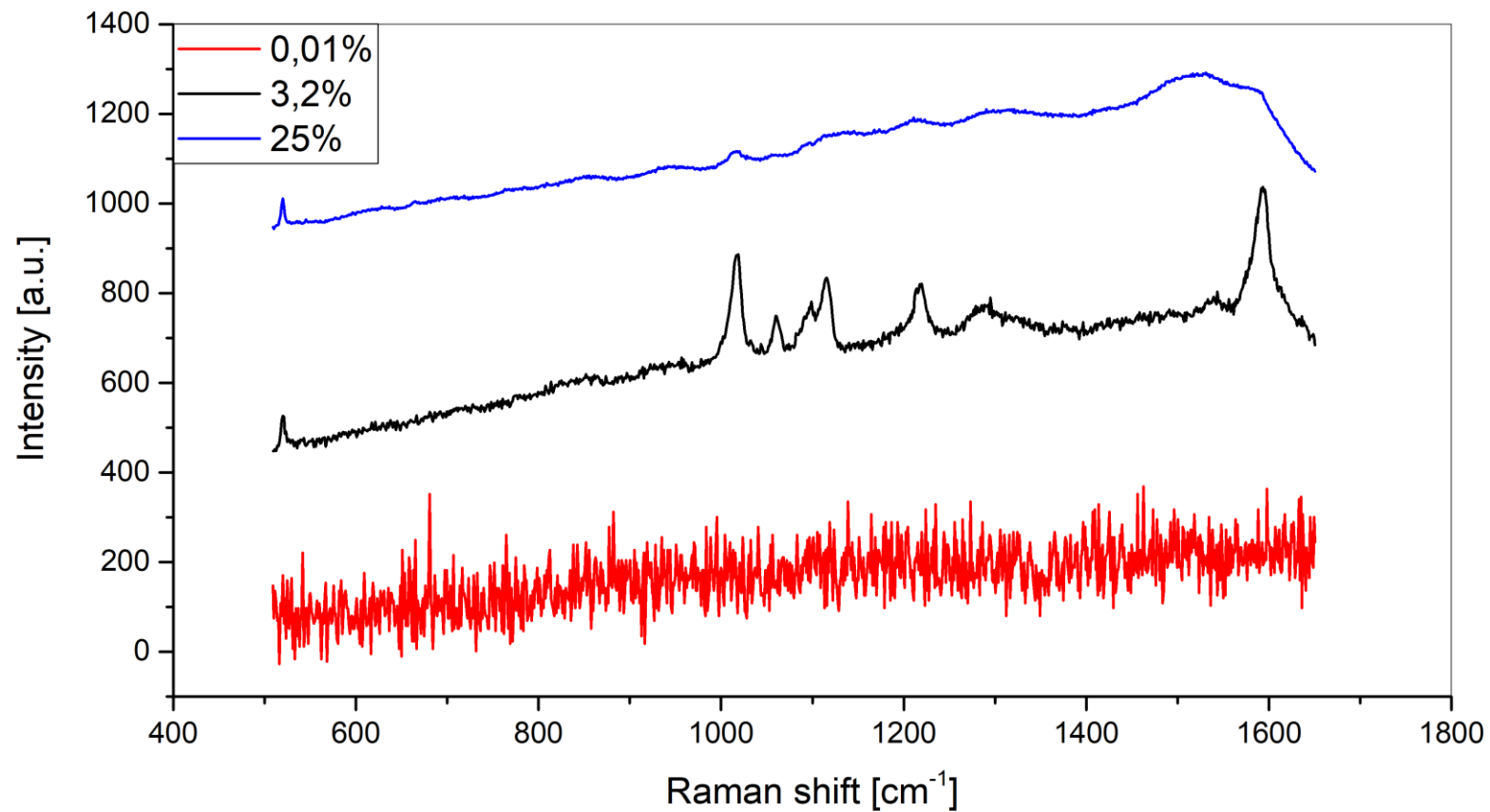
▲ Extra images With spectra Alone

Z

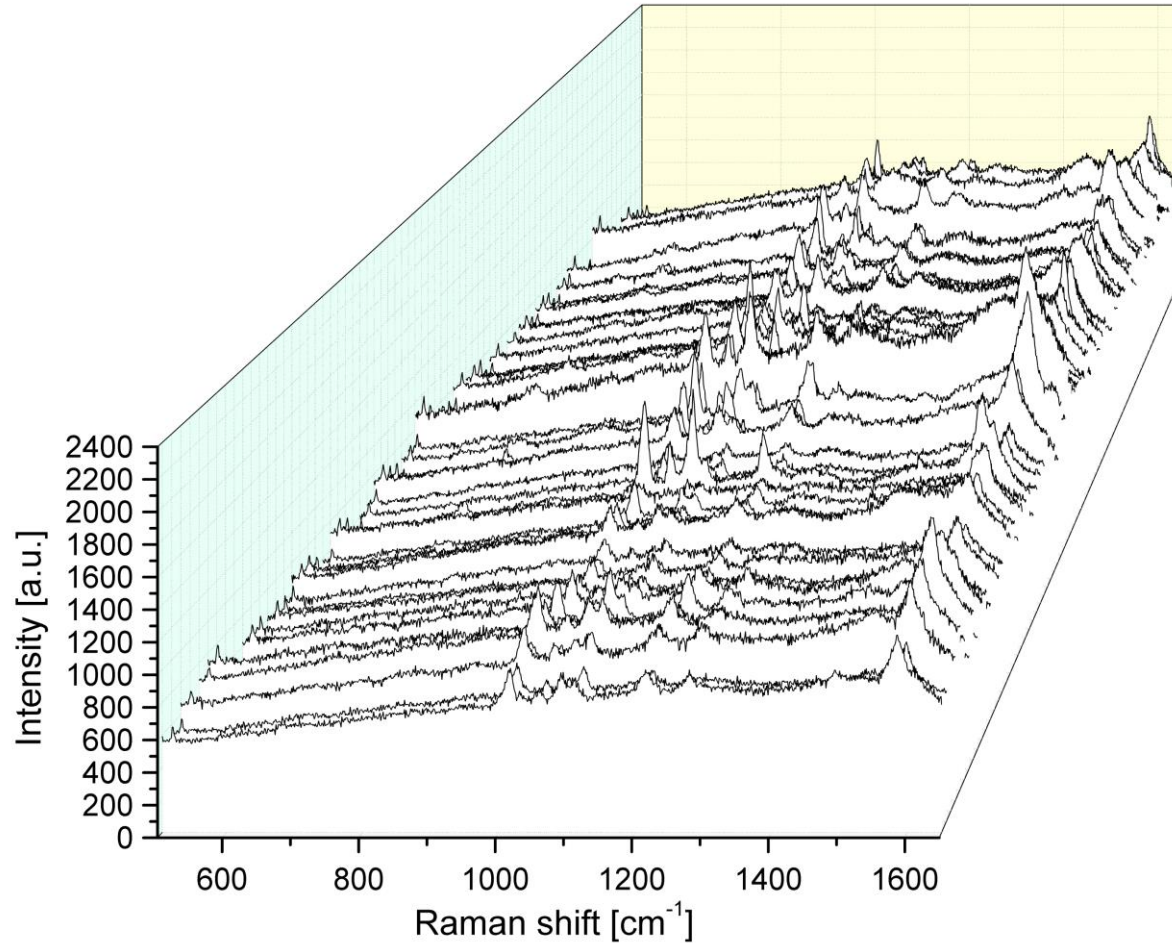
▲ Instant processing
1 FLAT correction
2 CLS 3 models
 Apply to RTD spectra to all other data

Warning: LabRAM

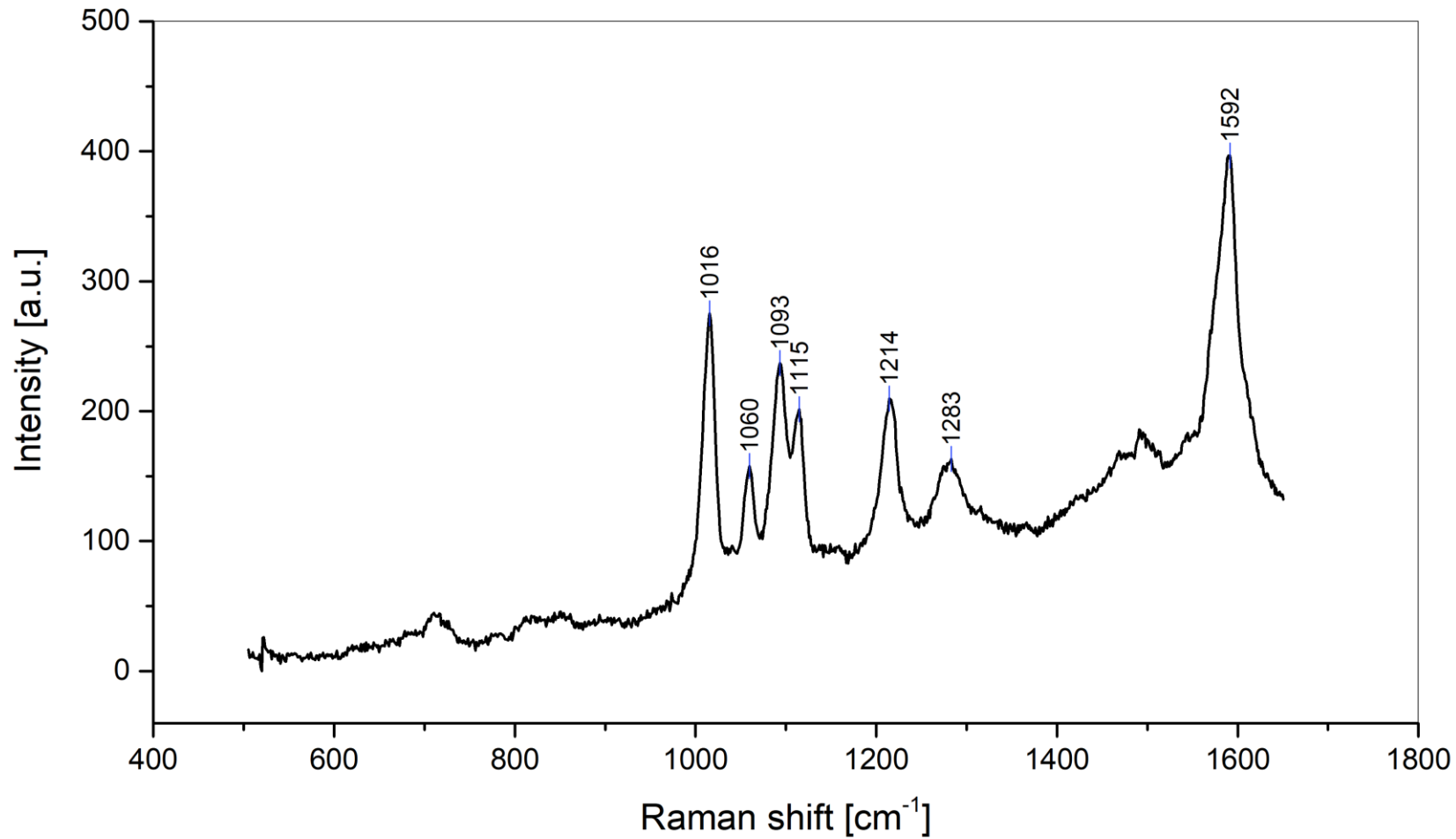
Měření



Zpracování dat



Výsledek



Poděkování

Děkujeme za pozornost!

Děkujeme Ing. Lucii Marešové za vedení a odbornou pomoc s miniprojektem a organizátorům Týdnu vědy na Jaderce.

[Leky](#)

[Mars rover](#)

[Mouka](#)

[Atom](#)

[Ramanův jev schéma](#)

[Mobil](#)

Zdroje