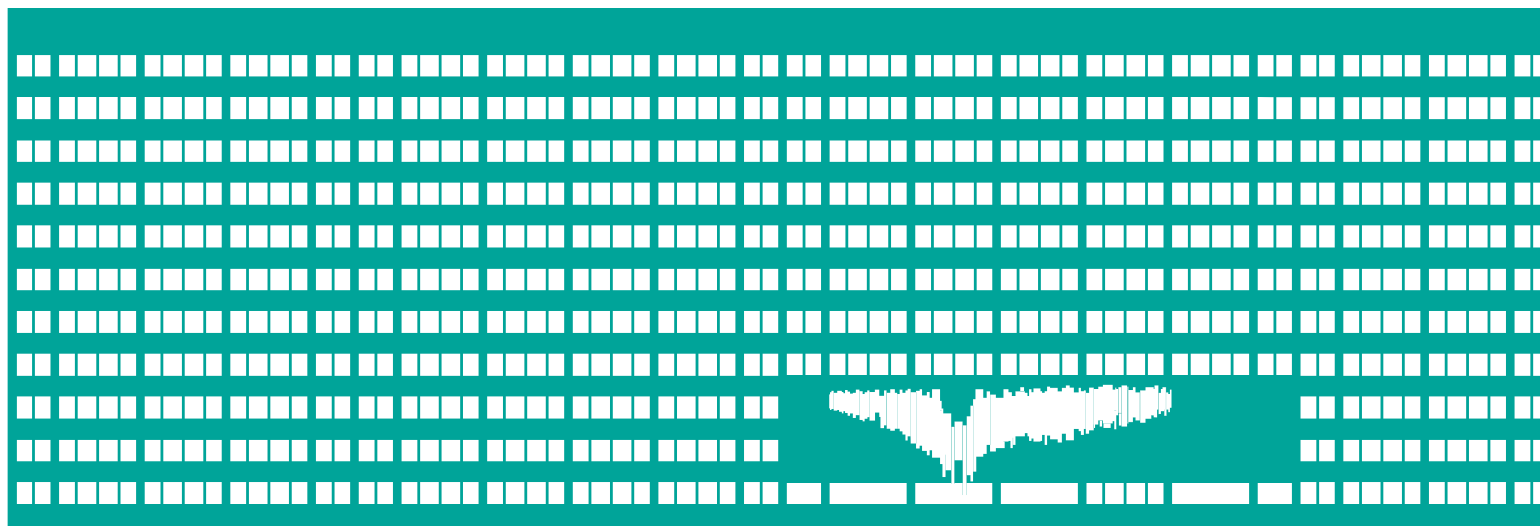


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Seminář

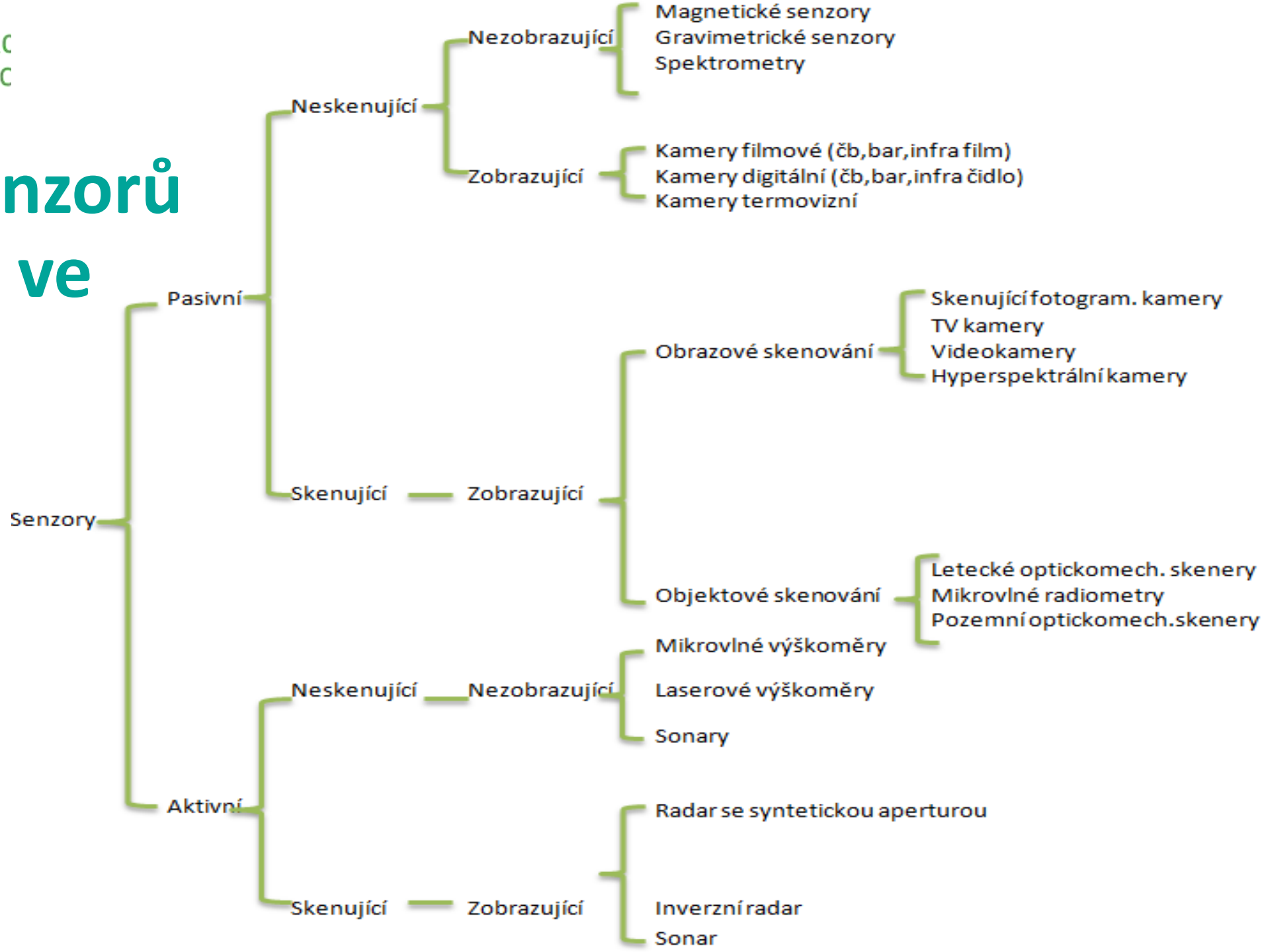
Geoinformatika v životním prostředí

Konstrukce hyperspektrálních kamer a možnosti jejich využití v lesnictví

Ing. Václav Šafář, Ph.D.

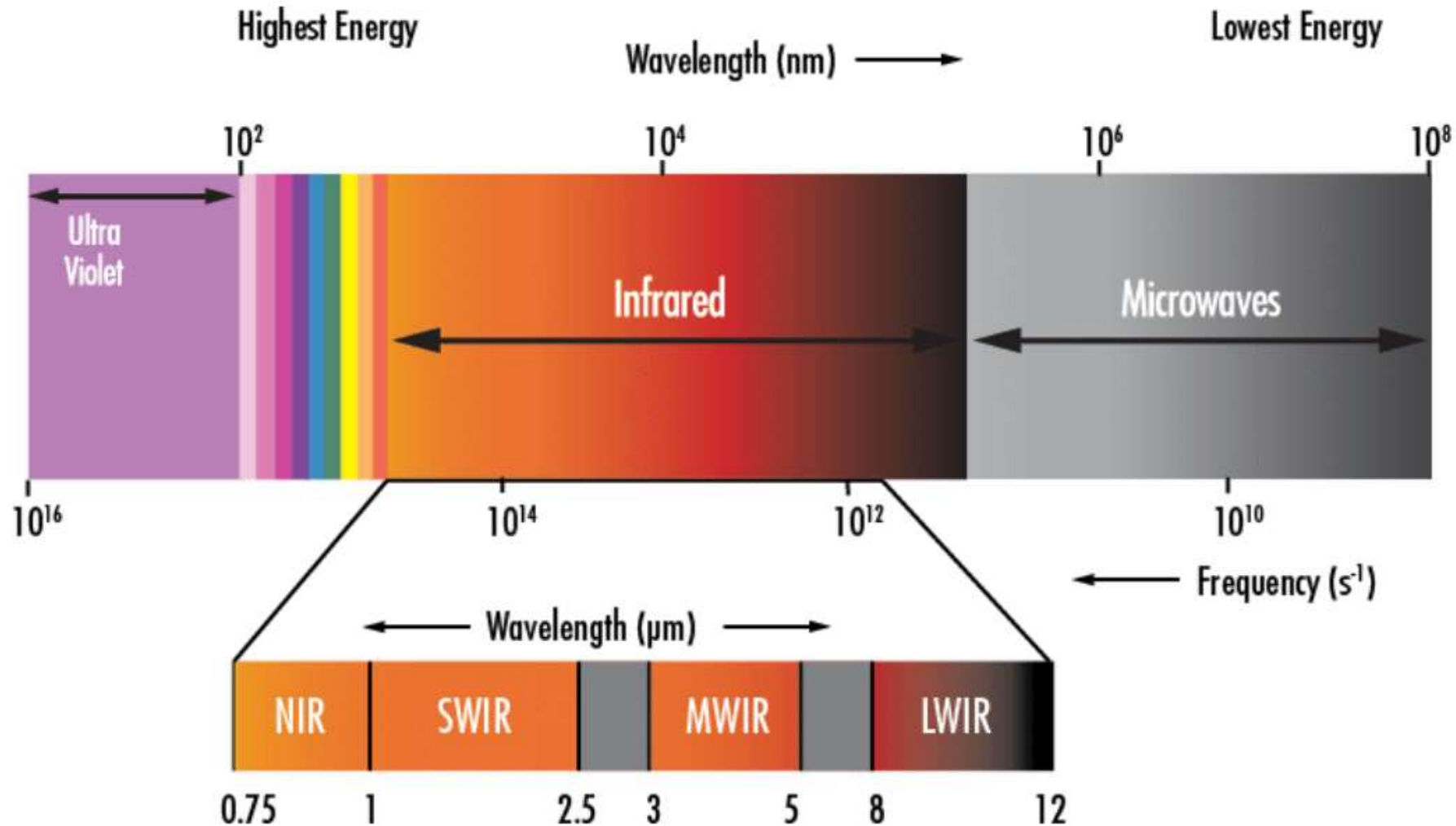
Katedra geodézie a důlního měřictví, HGF, VŠB TU Ostrava

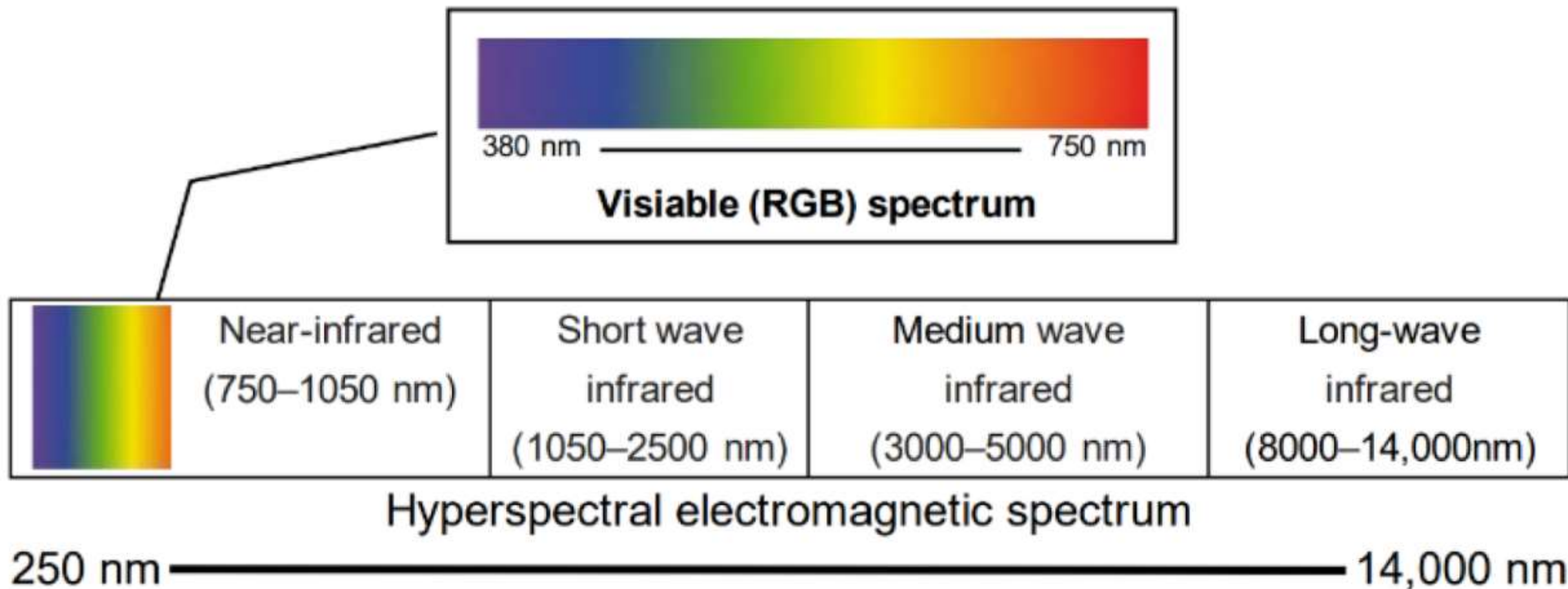
Rozdělení senzorů používaných ve FTGM a DPZ



Hyperspektrální kamery

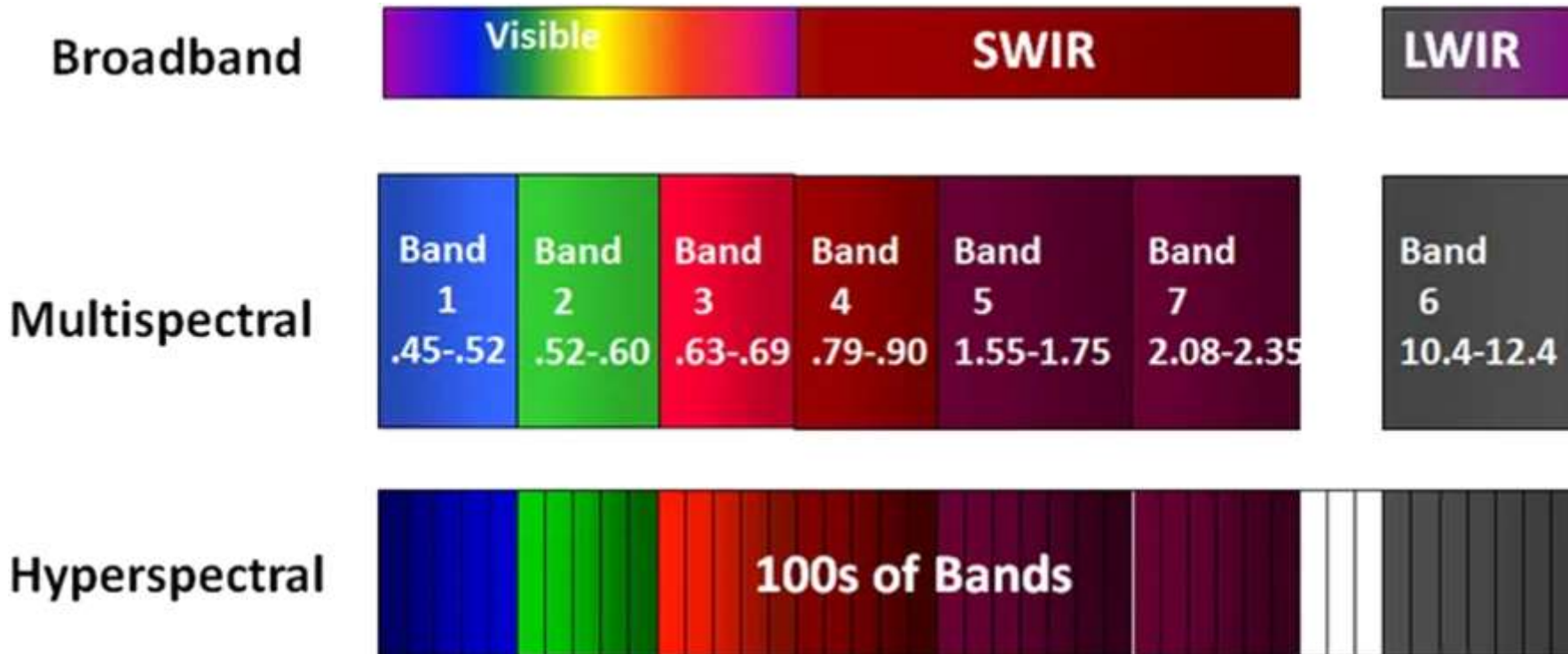
<https://www.cubert-hyperspectral.com/literature>



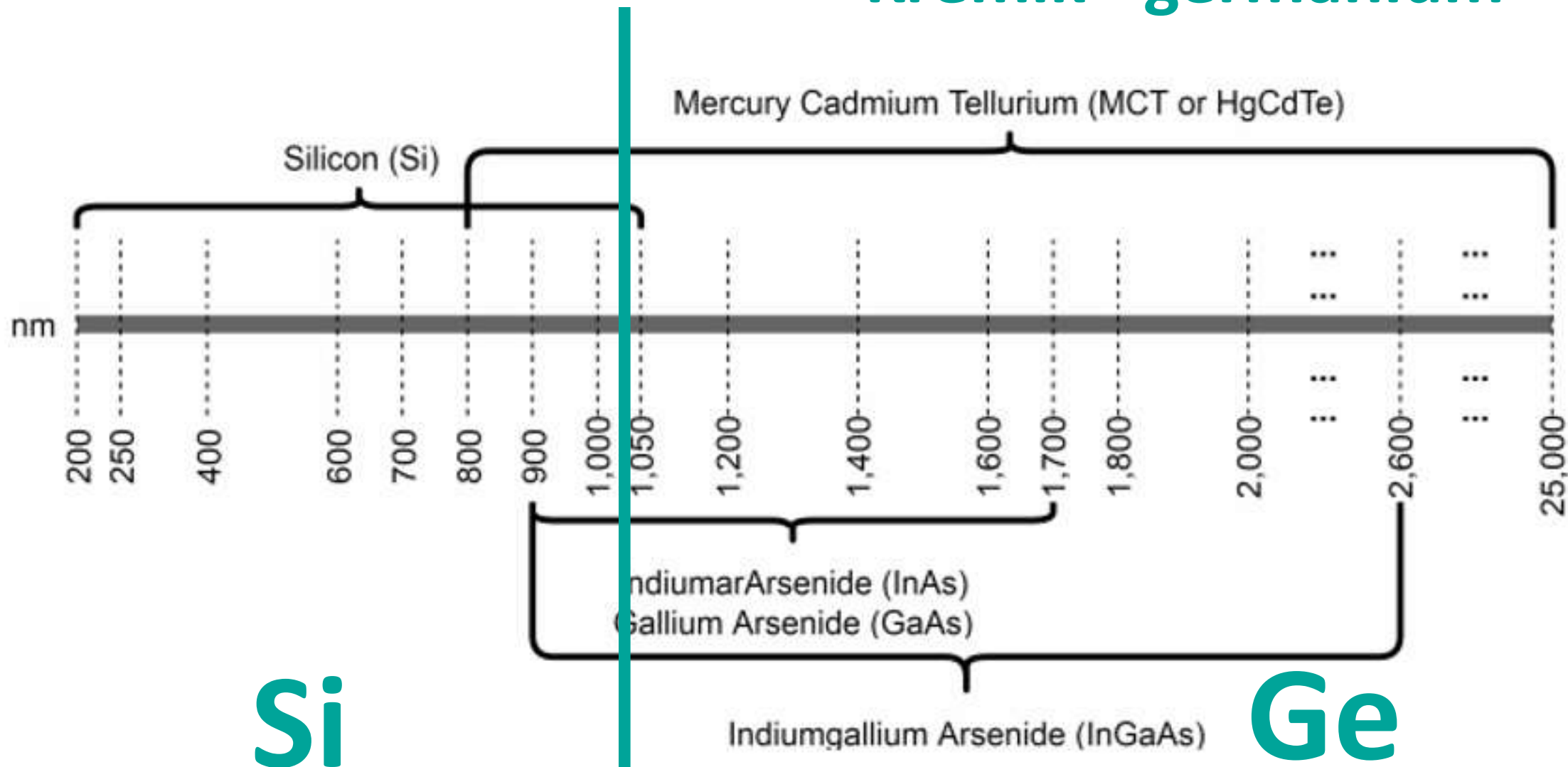


Hyperspektrální kamery

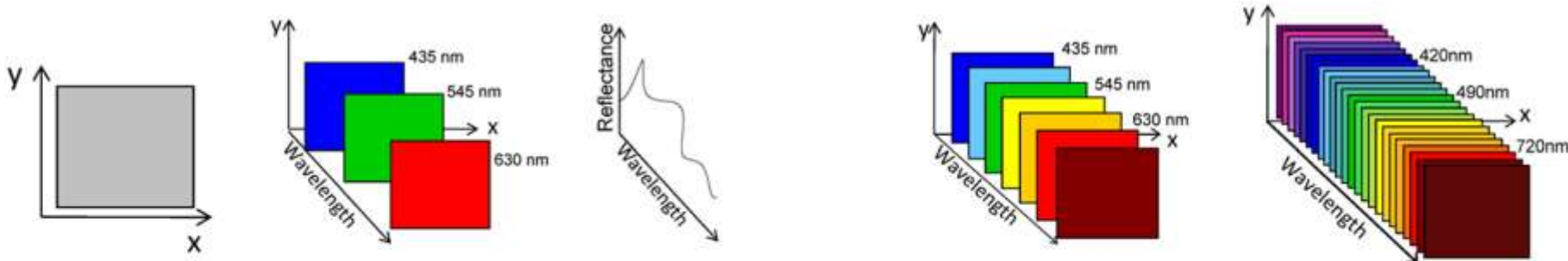
<https://www.cubert-hyperspectral.com/literature>



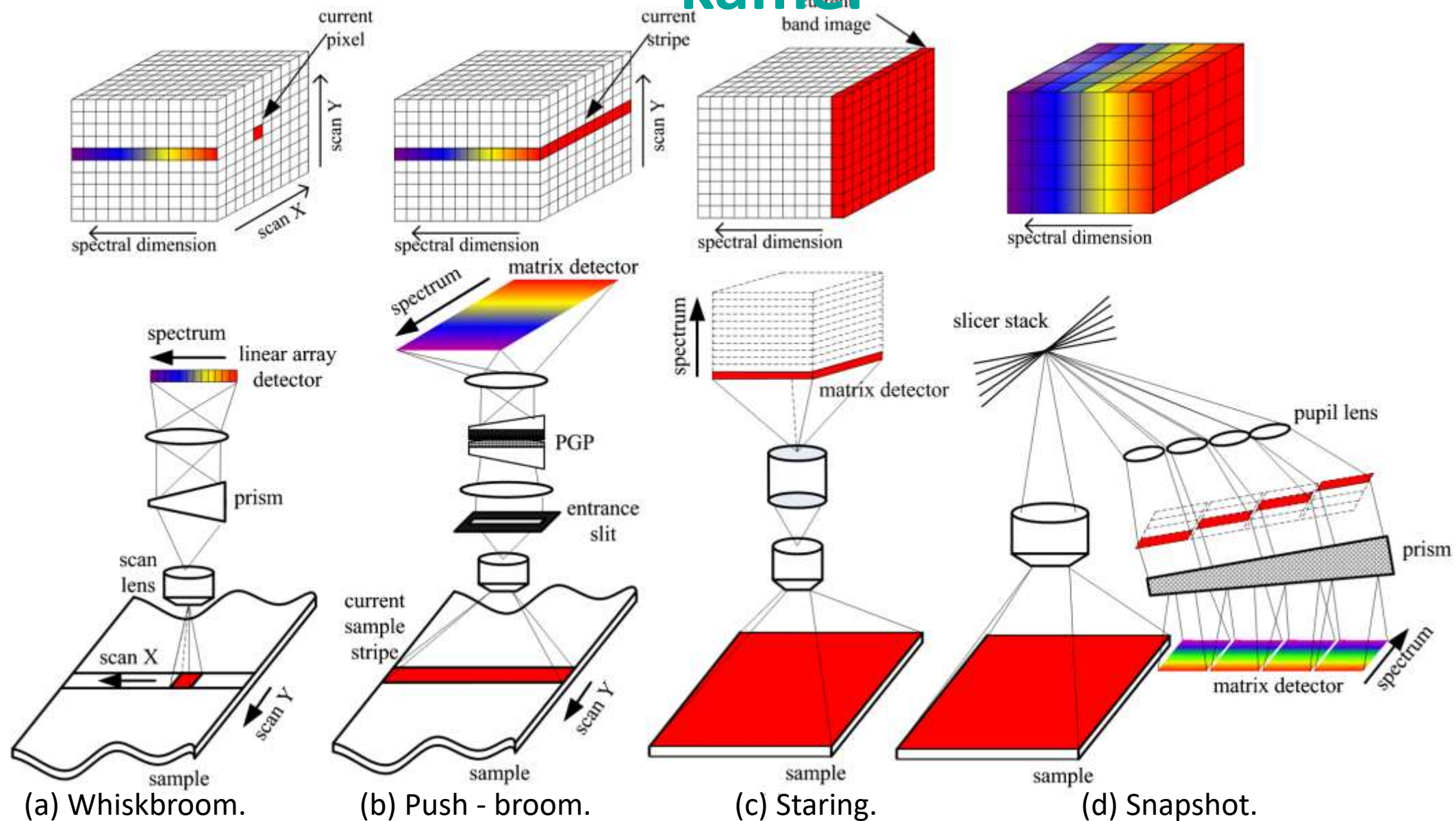
Křemík - germanium



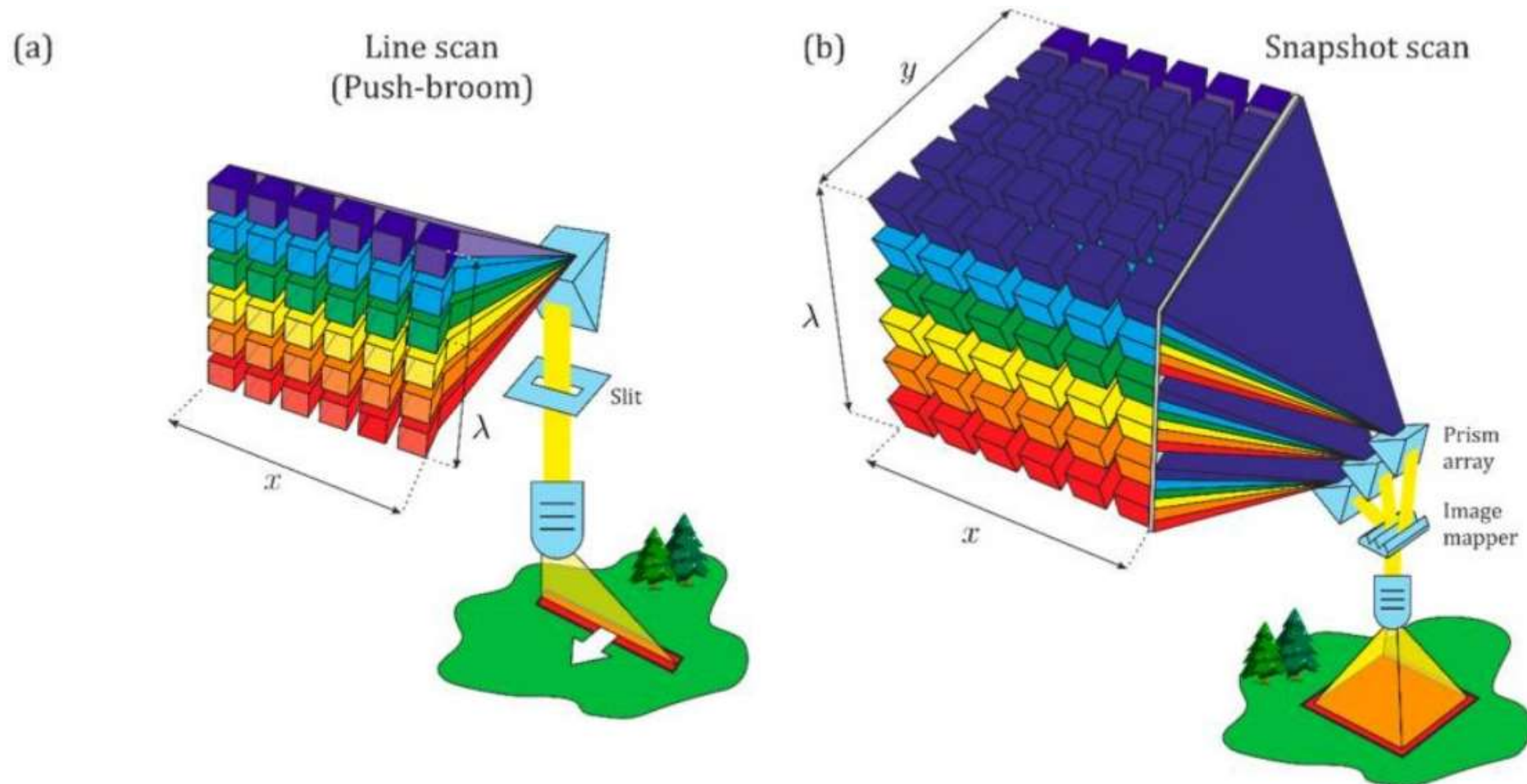
Rozdělení senzorů – „kamer“

Feature					
	Monochrome	RGB	Spectroscopy	Multispectral	Hyperspectral
Spatial information	Yes	Yes	No	Yes	Yes
Band numbers	1	3	From several dozens to hundreds	3 to 10	From several dozens to hundreds
Spectral information	No	No	Yes	Limited	Yes
Multiconstituent information	No	Limited	Yes	Limited	Yes
Sensitivity to minor components	No	No	No	Limited	Yes

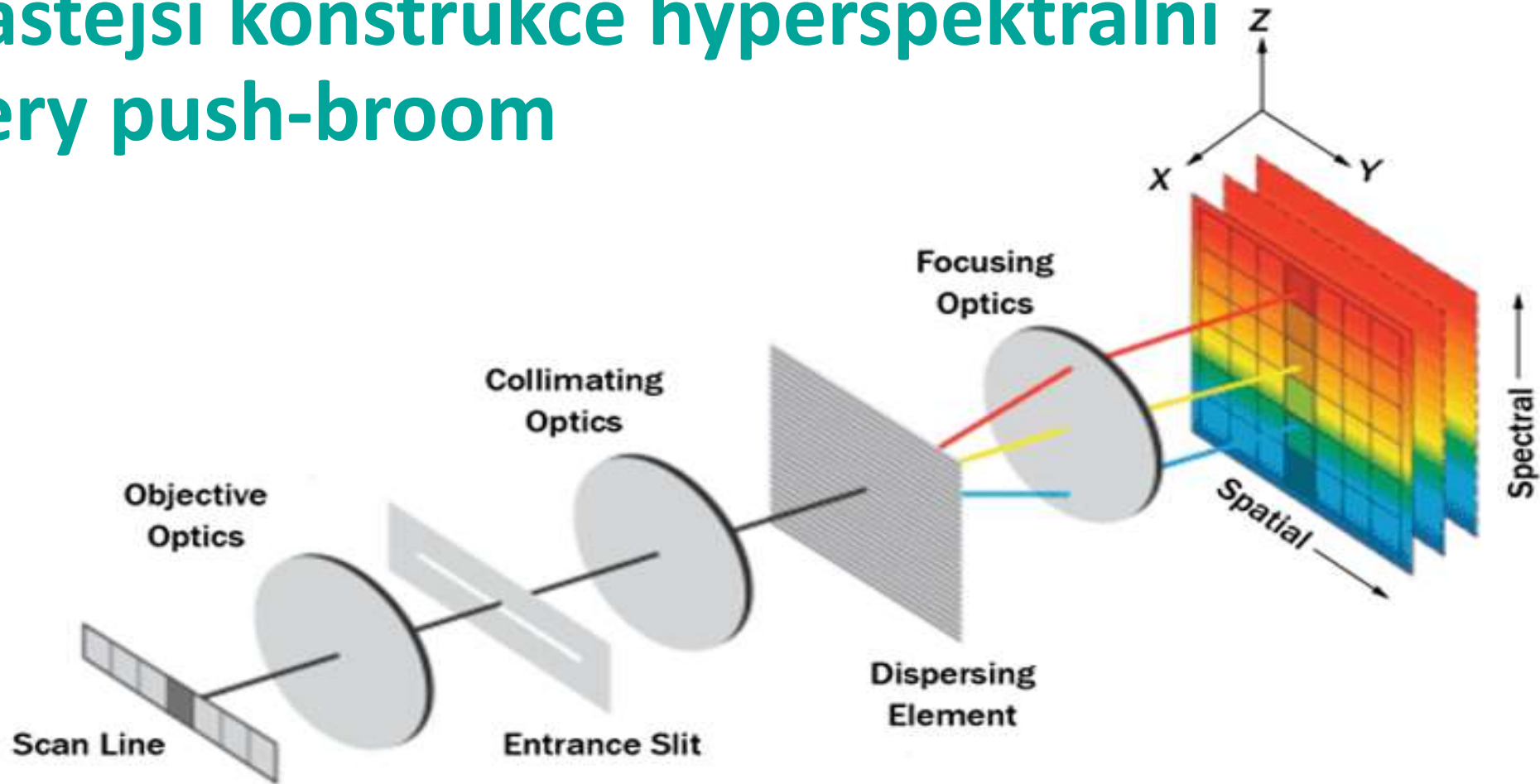
Konstrukce hyperspektrálních kamer

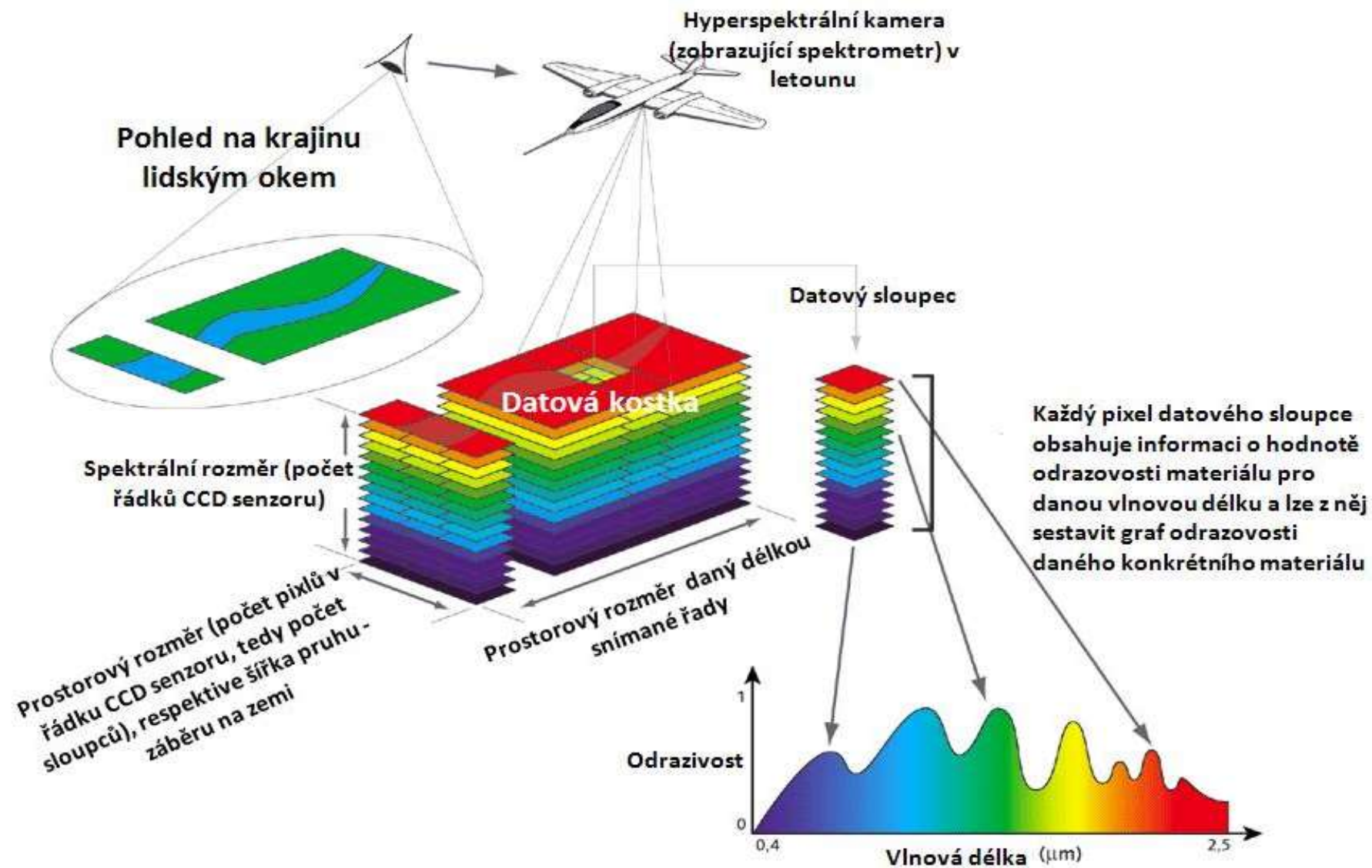


Detailní schéma push – broom a snapshot kamerové konstrukce

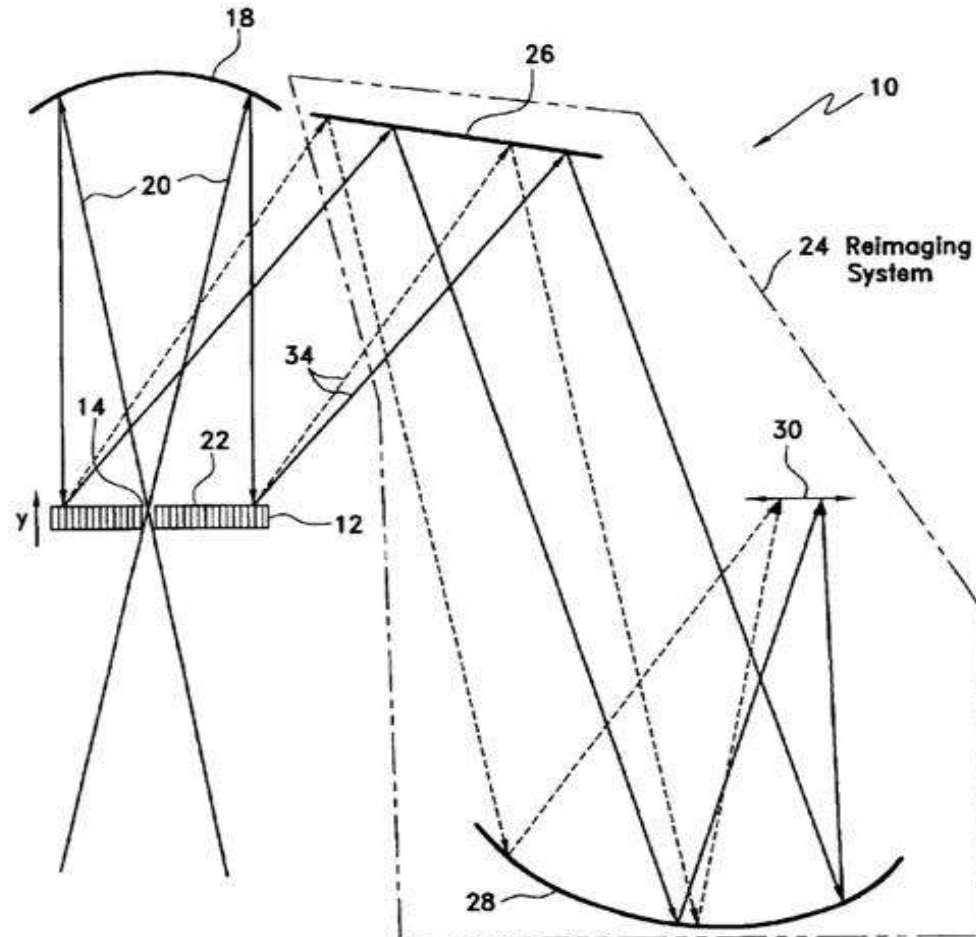
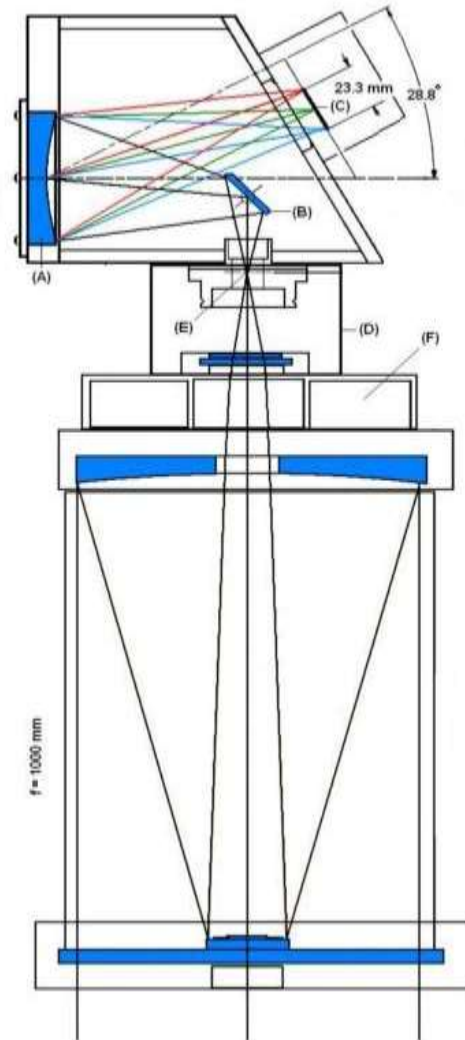


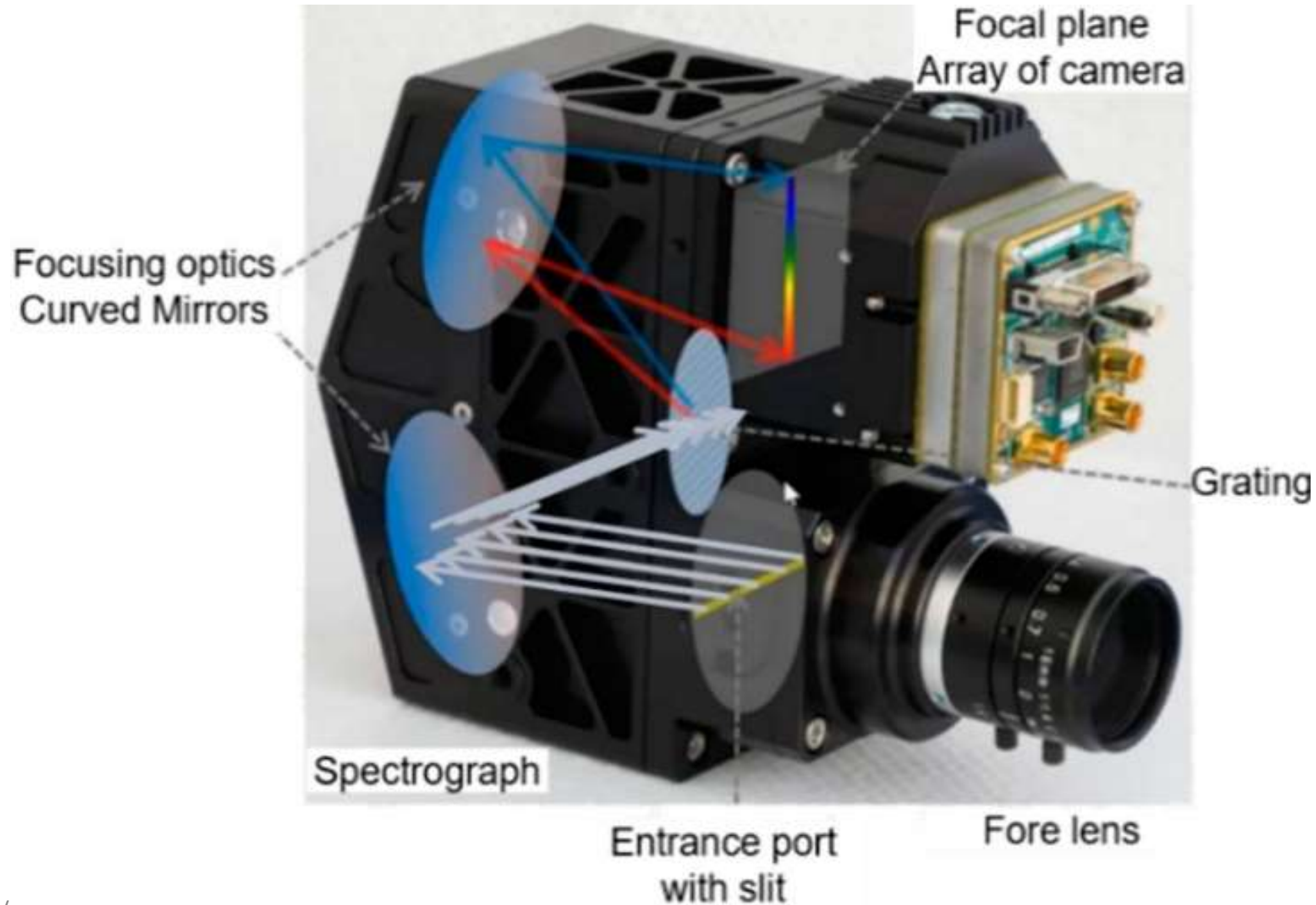
Nejčastější konstrukce hyperspektrální kamery push-broom





Reálné konstrukce hyperspektrálních push-brom kamer

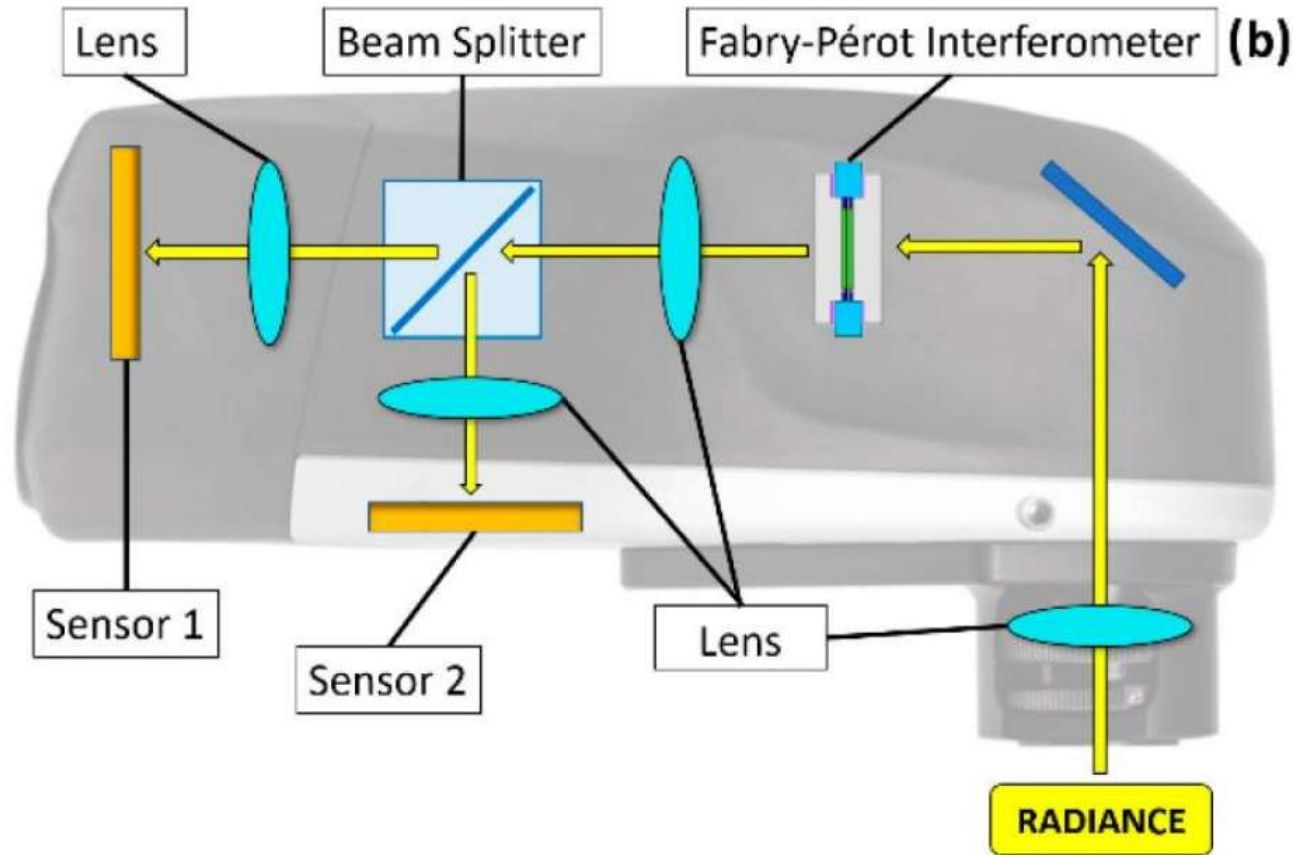
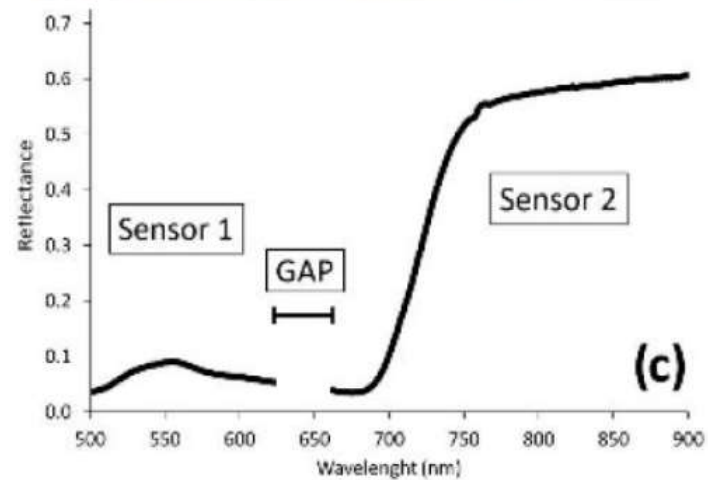












KALIBRAČNÍ POSTUPY U HYPERSPEKTRÁLNÍCH SENZORŮ

Kalibrace radiometrická

Kalibrace spektrální

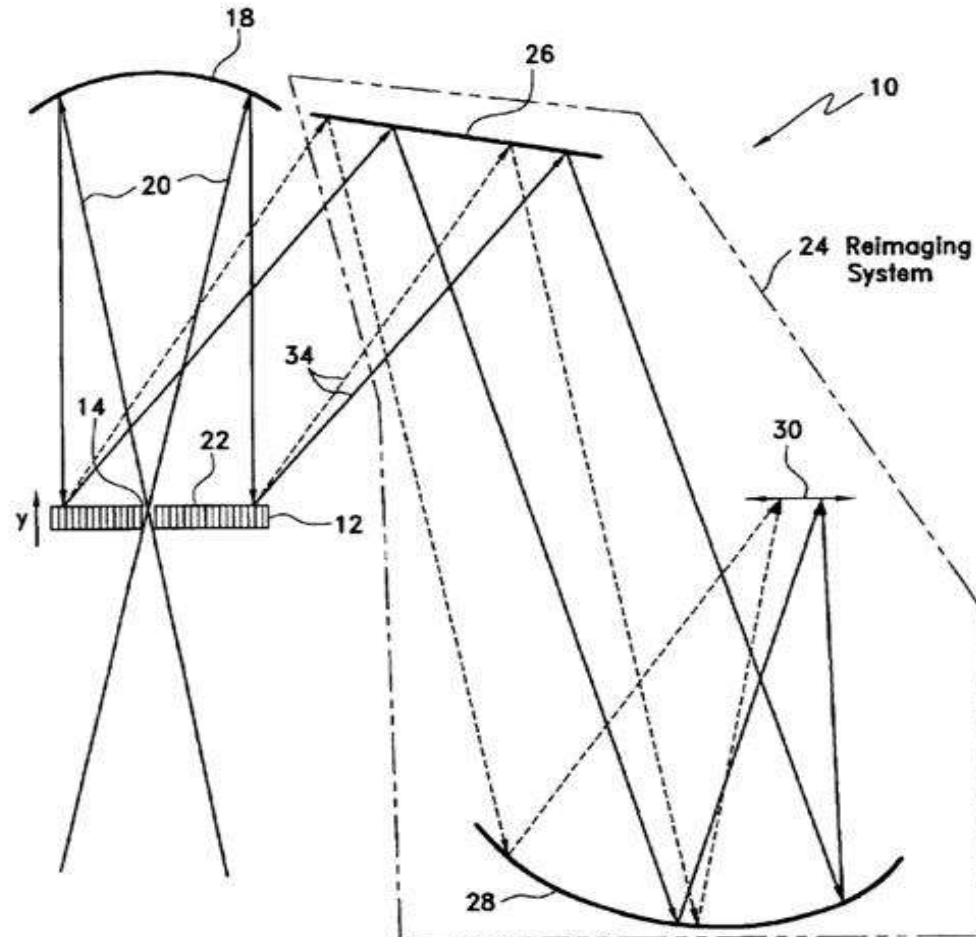
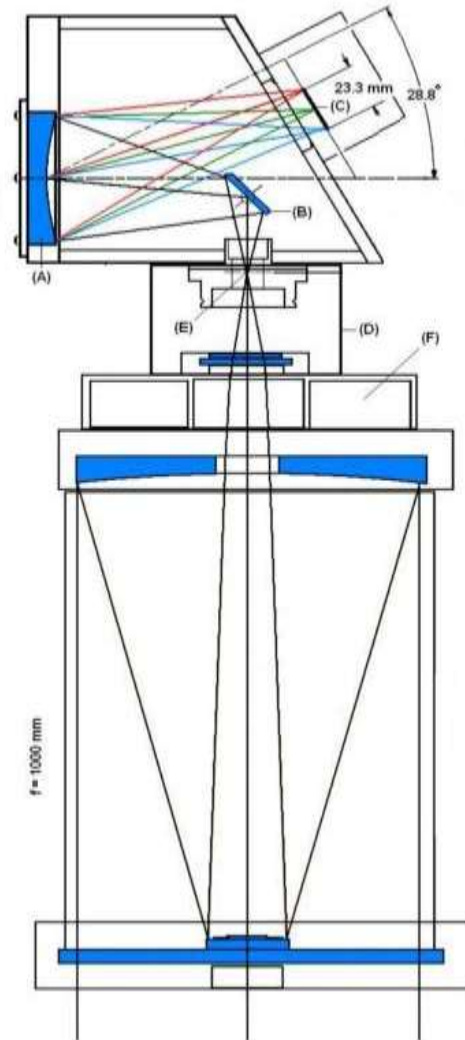
Kalibrace geometrická

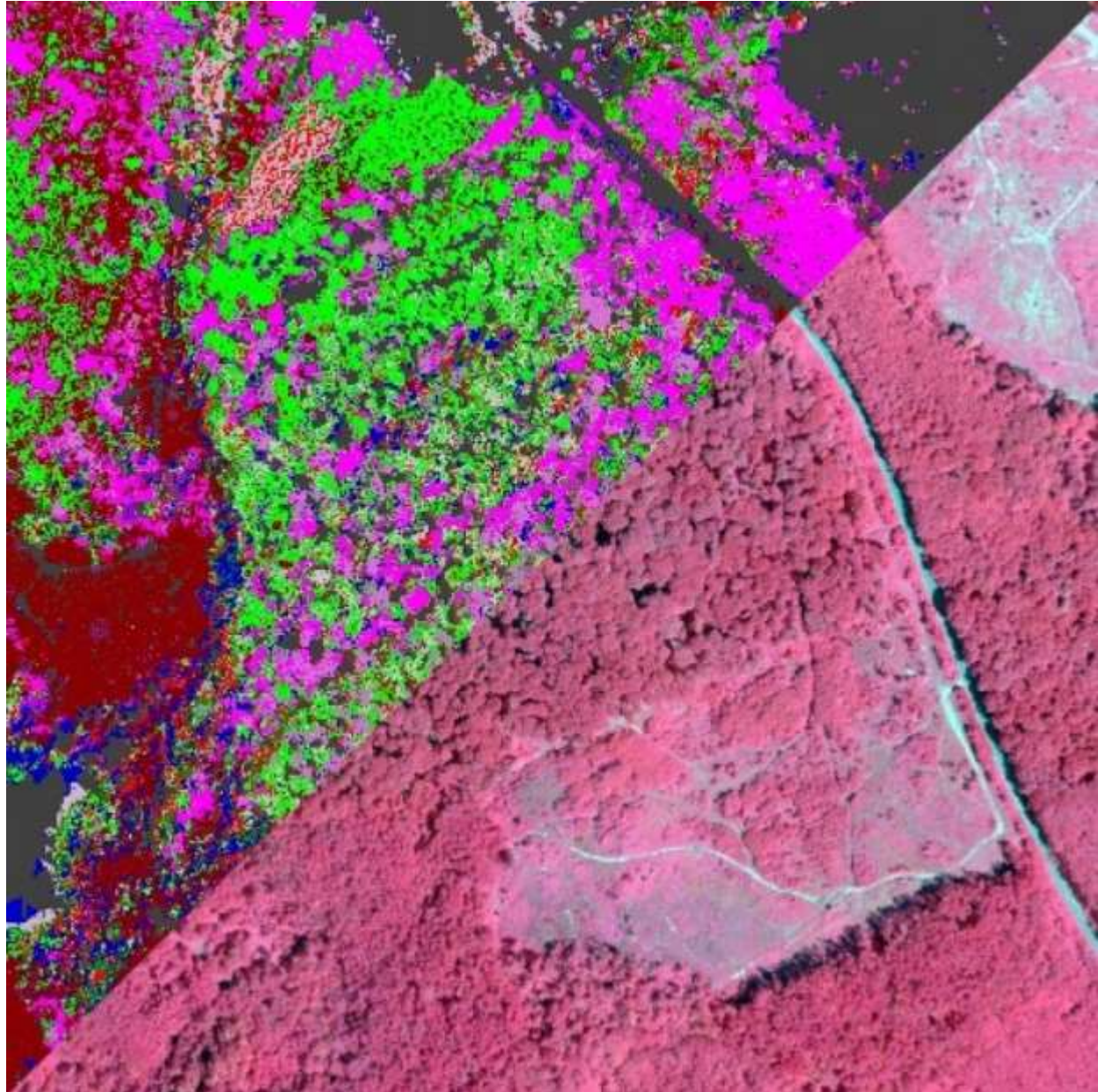
FWHM kalibrace

Palubní kalibrace - boresighting

Kalibrační základna

Reálné konstrukce hyperspektrálních push-brom kamer





<https://youtu.be/127twyLCA4M>

<https://www.youtube.com/watch?v=npFjRT-vJsQ>

<https://www.youtube.com/watch?v=FjKVptgr3uU>

https://www.youtube.com/watch?v=gtlJetaKi_A

Děkuji za pozornost

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