

Spektrální analýza světelného svazku. Barevné souřadnice

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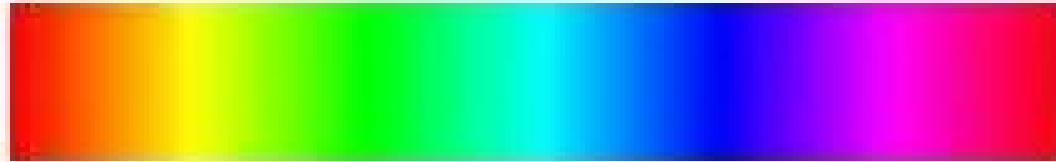
Spektrální analýza

- Svetelný zväzok -> jednotlivé zložky
- Astronómia, medicína...
- Lom, interferencia, difrakcia

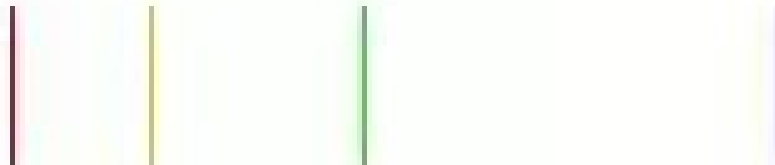


Typy spektier

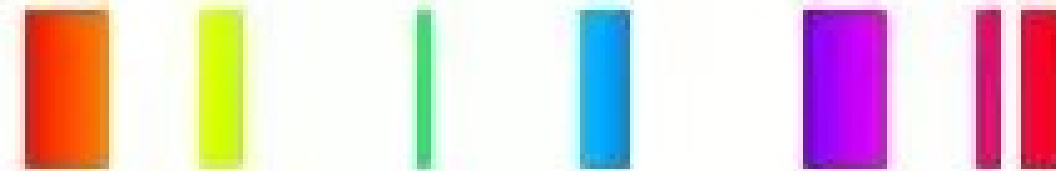
- Spojité



- Pásové



- Čiarové

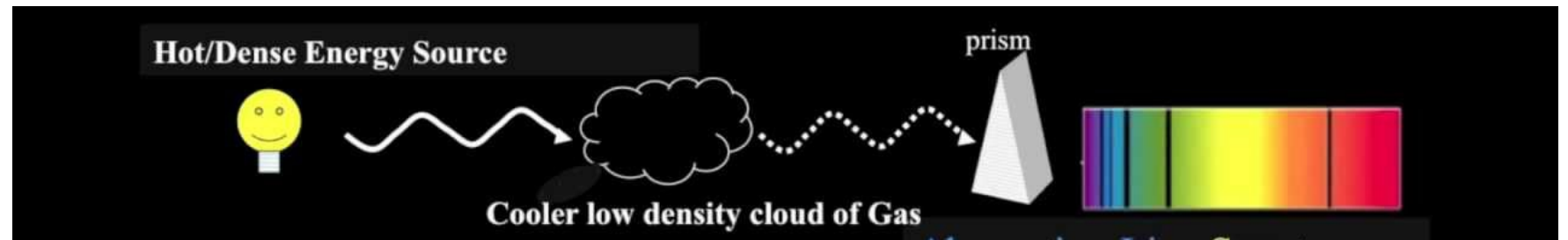


Typy spektier

- Emisné

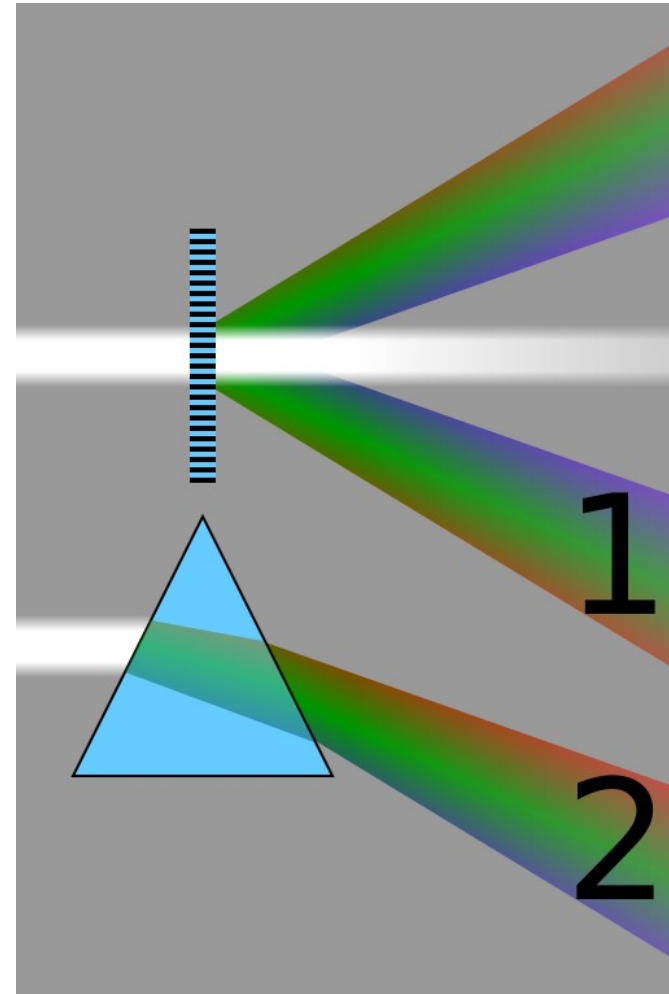


- Absorpčné



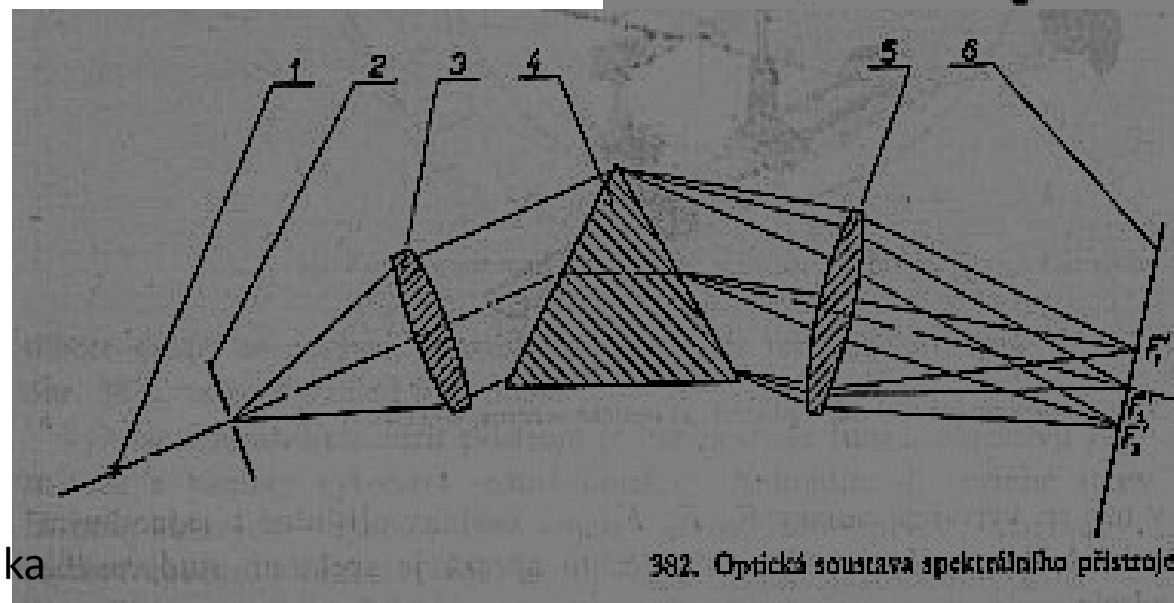
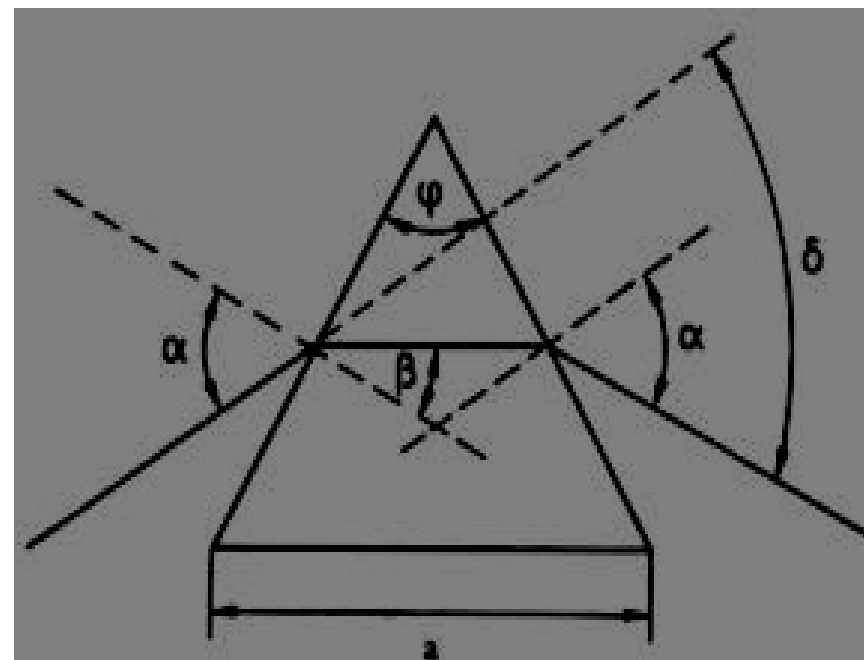
Spektroskopy

- Prístroj na skúmanie spektra svetla
- Hranolový
- S difrakčnou mriežkou
- Interferenčný



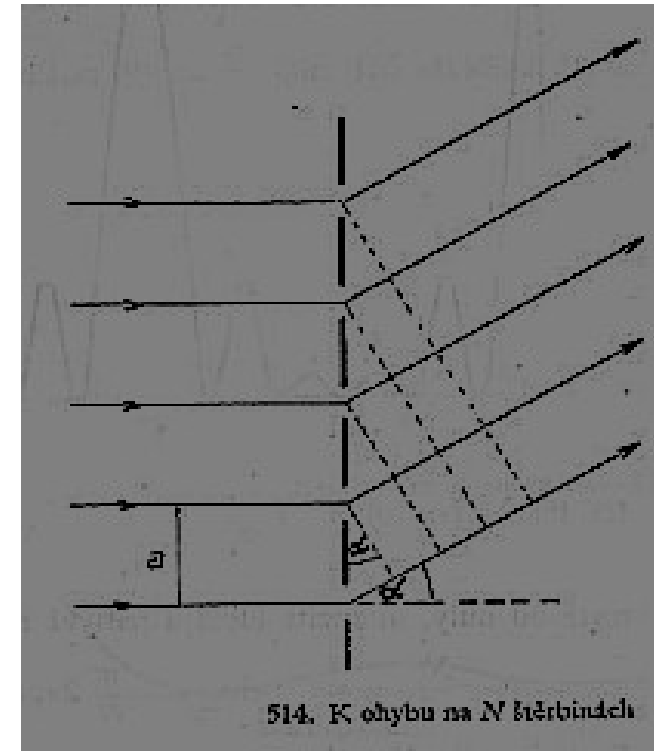
Hranolový spektroskop

- Lom světla
- $$\frac{\partial \delta}{\partial \lambda} = 2 \frac{\partial n}{\partial \lambda} \frac{\sin(\varphi/2)}{\cos(\delta + \varphi)}$$



Spektroskop s difrakčnou mriežkou

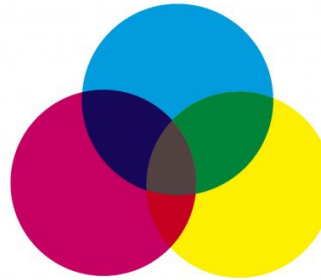
- Difrakcia svetla
- $\frac{\partial \beta_m}{\partial \lambda} = \frac{m}{a \cos \beta_m}$
- $R_s = d \frac{|m|}{a \cos \theta_m} = N |m|$
- Volný spektrální interval F_s
 - $F_{Sm} = \frac{\lambda}{m}$



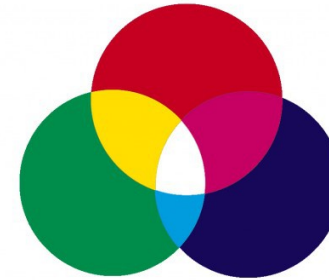
Barevné souřadnice

- XYZ CIE

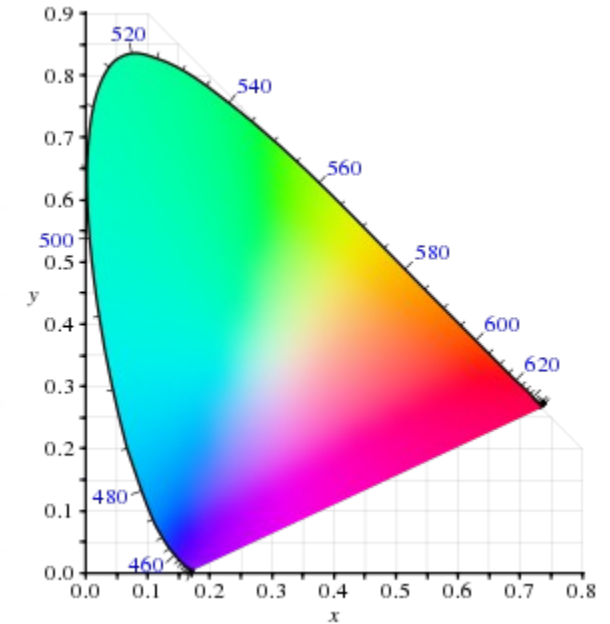
- $x = \frac{X}{X+Y+Z}$ $y = \frac{Y}{X+Y+Z}$



Subtractive color (CMYK)



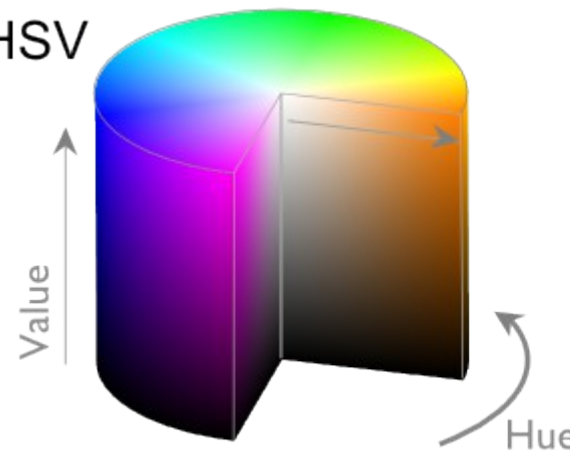
Additive Color (RGB)



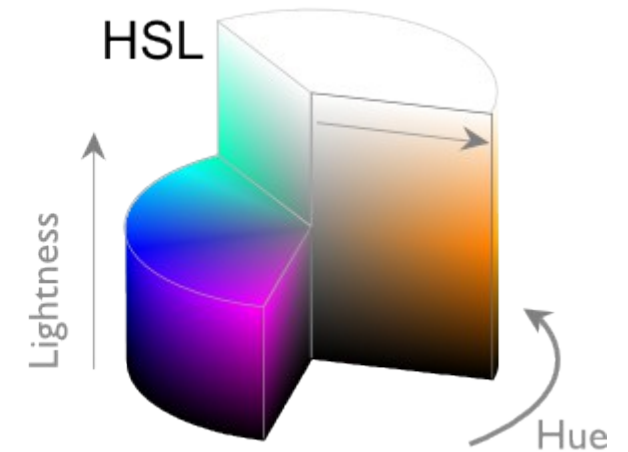
- Barevné modely

- RGB
 - HSV
 - HSL
 - CMYK

HSV



HSL



Jak vybrat LCD monitor (z pohledu grafiky)

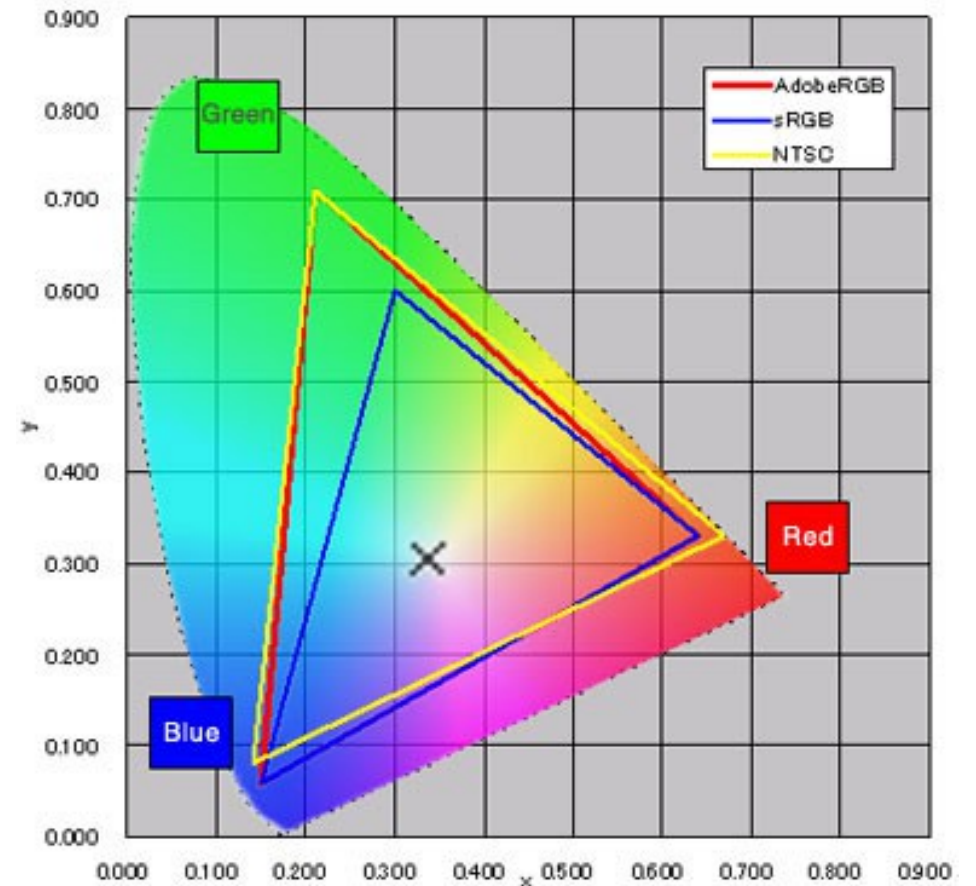
- **Gamut (barvy)**
- **Barevná hloubka**
- **Podsvícení**
- **Pozorovací úhly**
- **Další...**

Barevné modely v monitorech

- sRGB
- Adobe RGB
- NTSC
- SECAM

Zdroj: [1]

- Více na:
http://cs.wikipedia.org/wiki/Barevn%C3%A1_hloubka



Podsvícení

- Studené katody (CCFL)
- LED
 - RGB dynamic LED
 - Edge LED
- OLED
 - Organic light-emitting diode
- Zdroj:
<https://www.youtube.com/watch?v=EDAirRyMj34>

