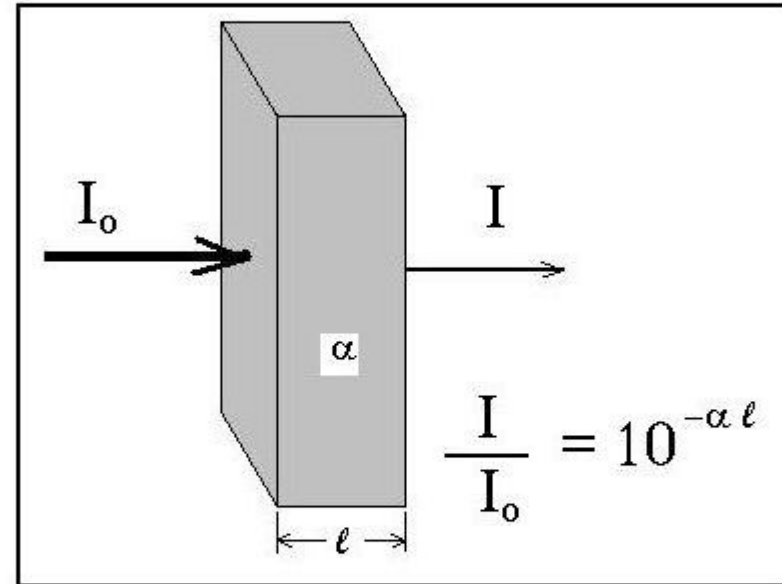
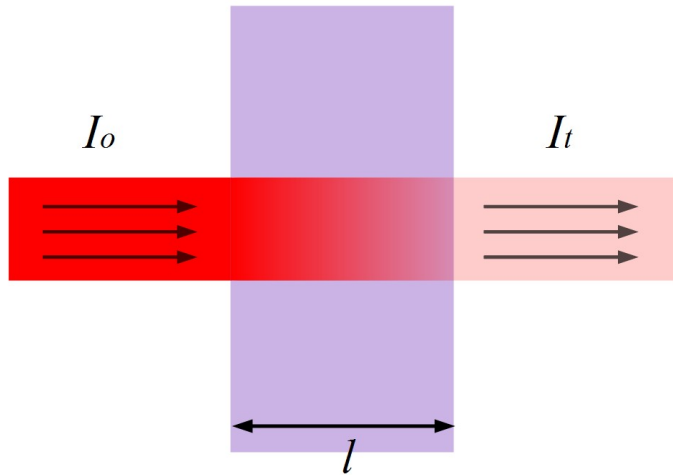


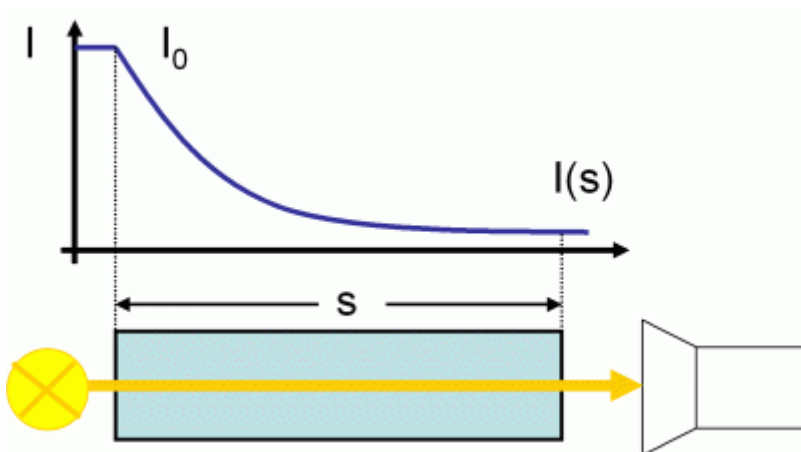
# Měření zákalu (turbidity)

kapalin X atmosféry

# Beer-Lambertův zákon



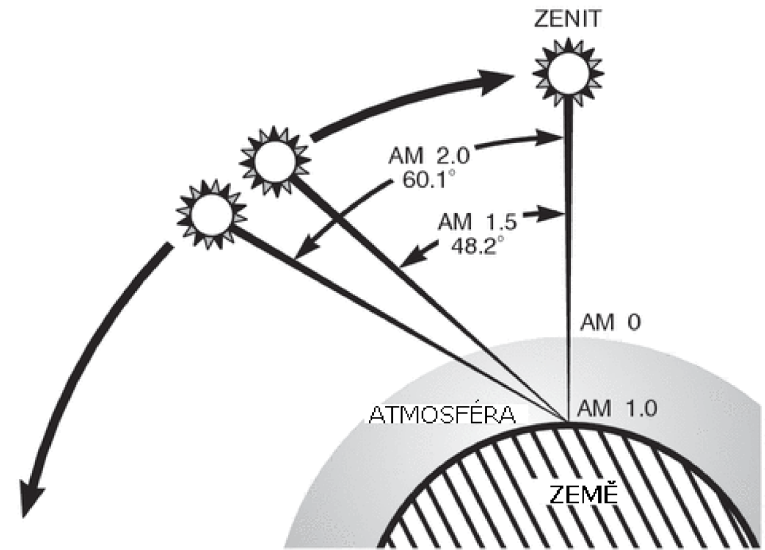
The Beer Lambert Law



# Beer-Lambertův zákon v atmosféře

$$I = I_0 \cdot e^{-m\delta}$$

$$I = I_0 \cdot e^{-m\delta_R T_L}$$



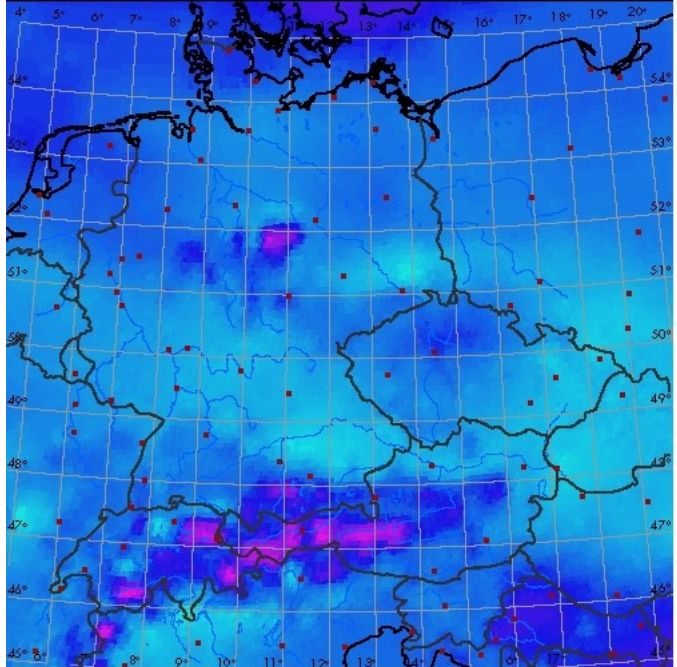
Rayleighova  
optická tloušťka

$$\delta_R = -\frac{1}{m} \cdot \ln \frac{I_{\check{c}}}{I_0}$$

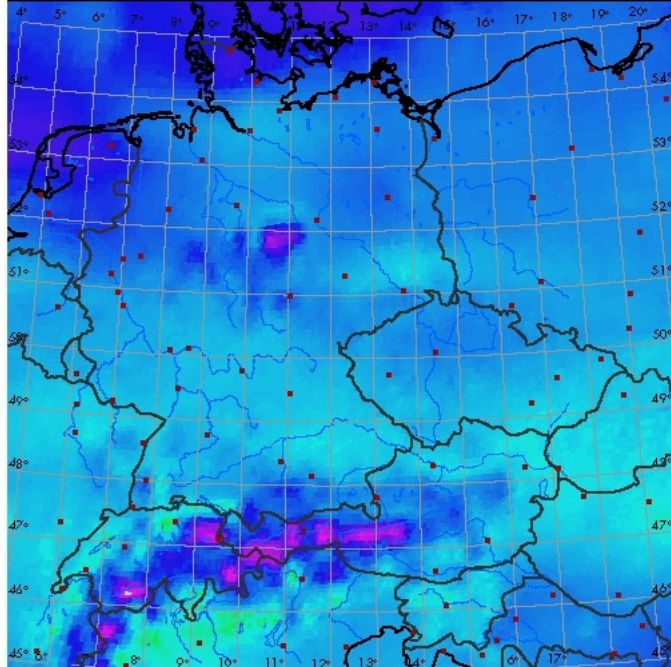
Linkeho koeficient  
(zákalové číslo)

$$T_L = \frac{\ln I_0 - \ln I_{Pn}}{\ln I_0 - \ln I_{\check{c}}}$$

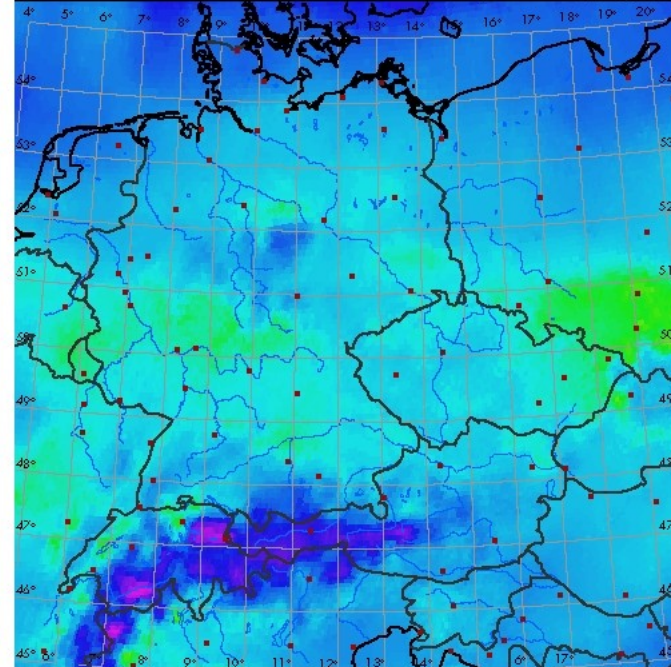
S@tel-Light Zone : G From : Sunrise To : Sunset Clock Time, 1996 to 2000  
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec All Year  
Information : Mean Linke Turbidity  
1 2 3 4 5 6 7 Date : 04/06/07  
www.satel-light.com



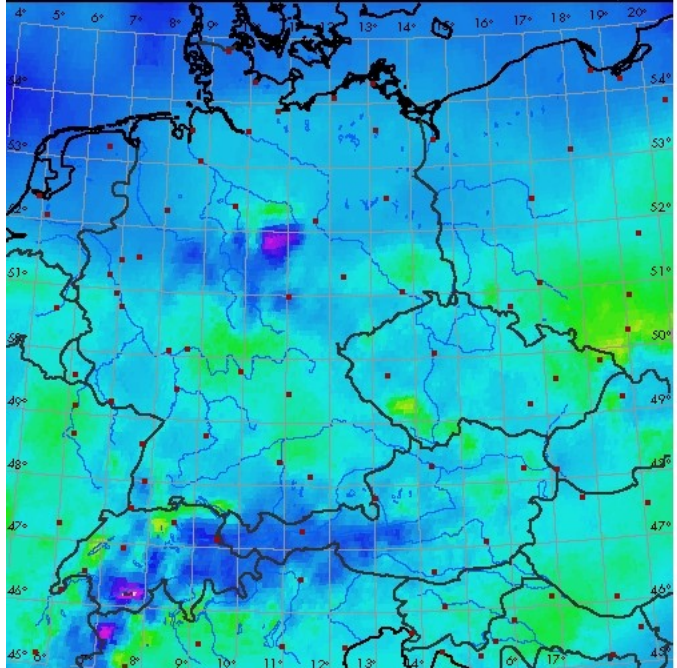
S@tel-Light Zone : G From : Sunrise To : Sunset Clock Time, 1996 to 2000  
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec All Year  
Information : Mean Linke Turbidity  
1 2 3 4 5 6 7 Date : 04/06/07  
www.satel-light.com



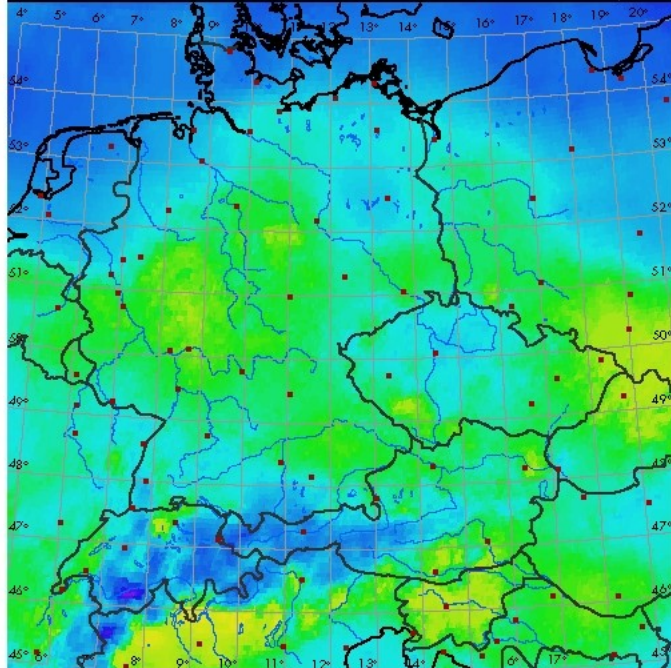
S@tel-Light Zone : G From : Sunrise To : Sunset Clock Time, 1996 to 2000  
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec All Year  
Information : Mean Linke Turbidity  
1 2 3 4 5 6 7 Date : 04/06/07  
www.satel-light.com



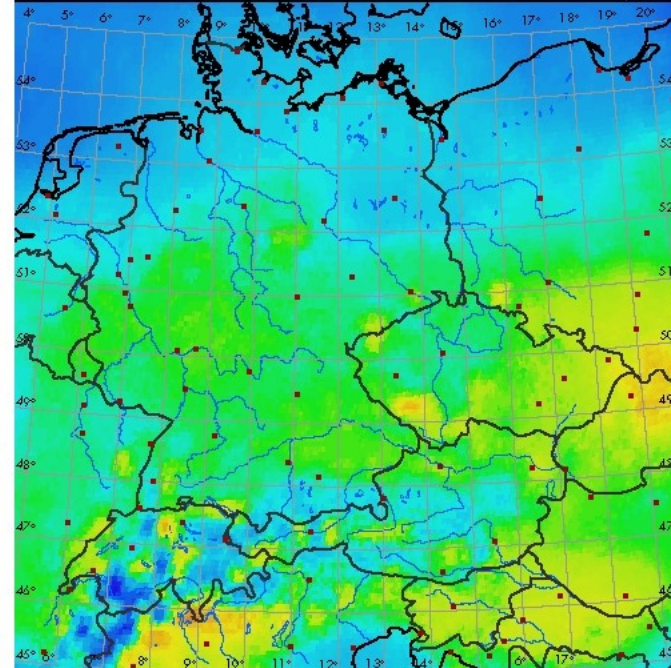
S@tel-Light Zone : G From : Sunrise To : Sunset Clock Time, 1996 to 2000  
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec All Year  
Information : Mean Linke Turbidity  
1 2 3 4 5 6 7 Date : 04/06/07  
www.satel-light.com



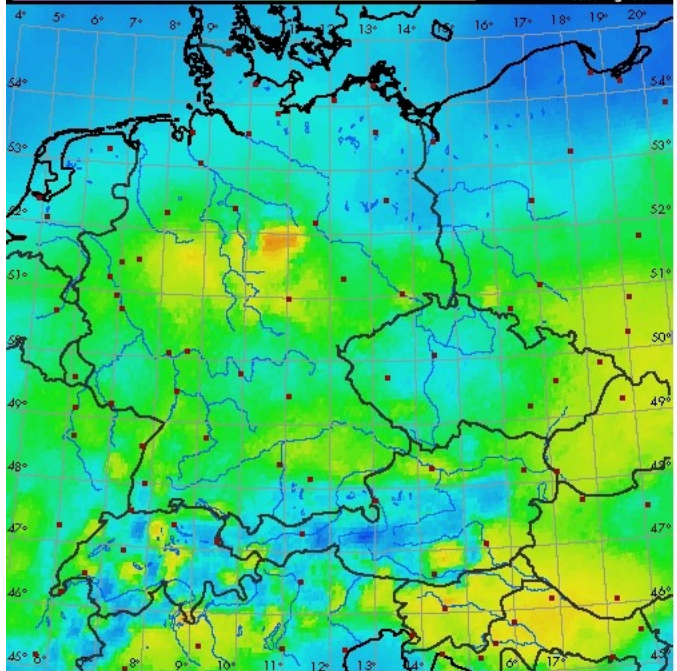
S@tel-Light Zone : G From : Sunrise To : Sunset Clock Time, 1996 to 2000  
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Information : Mean Linke Turbidity  
1 2 3 4 5 6 7 Date : 04/06/07  
www.satel-light.com



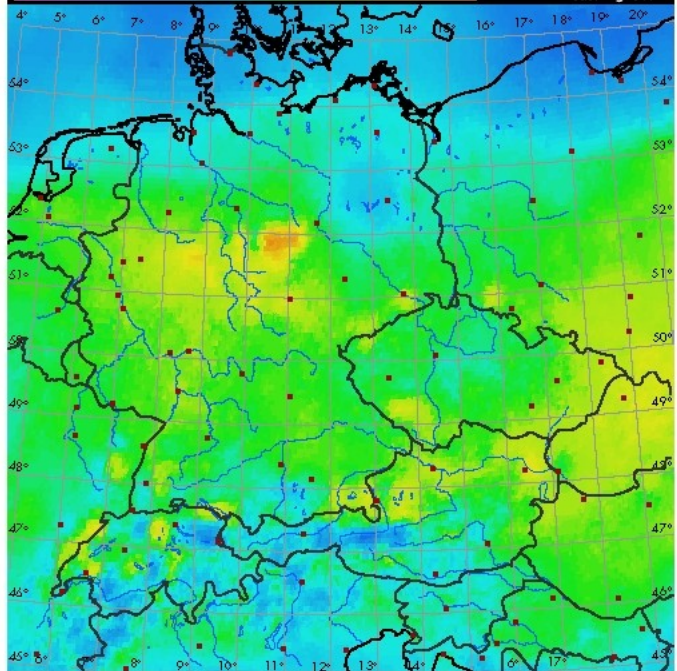
S@tel-Light Zone : G From : Sunrise To : Sunset Clock Time, 1996 to 2000  
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Information : Mean Linke Turbidity  
1 2 3 4 5 6 7 Date : 04/06/07  
www.satel-light.com



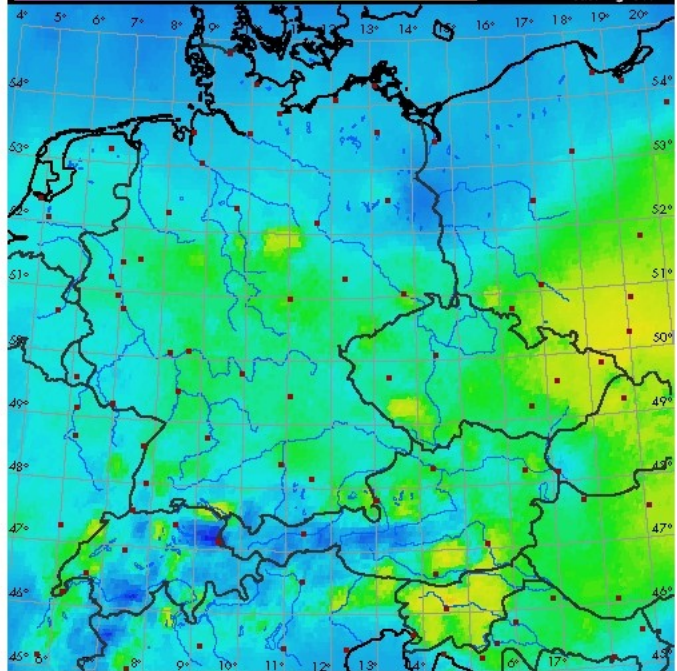
S@tel-Light Zone : G From : Sunrise To : Sunset Clock Time, 1996 to 2000  
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Information : Mean Linke Turbidity  
1 2 3 4 5 6 7 Date : 04/06/07  
www.satel-light.com



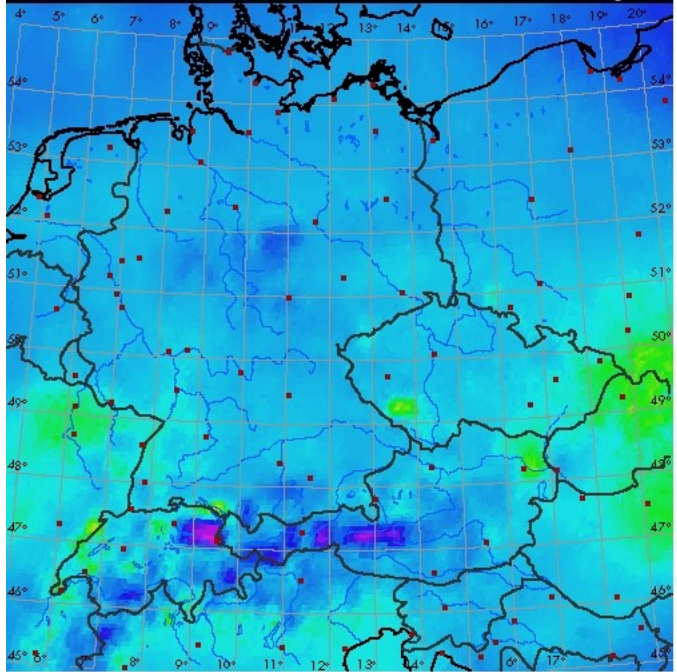
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1 2 3 4 5 6 7 Date : 04/06/07  
www.satel-light.com



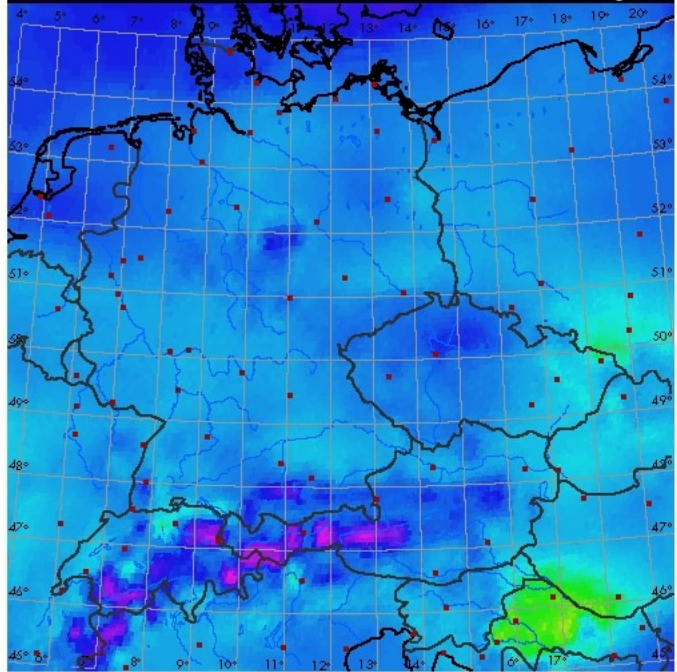
S@tel-Light Zone : G From : Sunrise To : Sunset Clock Time, 1996 to 2000  
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Information : Mean Linke Turbidity  
1 2 3 4 5 6 7 Date : 04/06/07  
www.satel-light.com



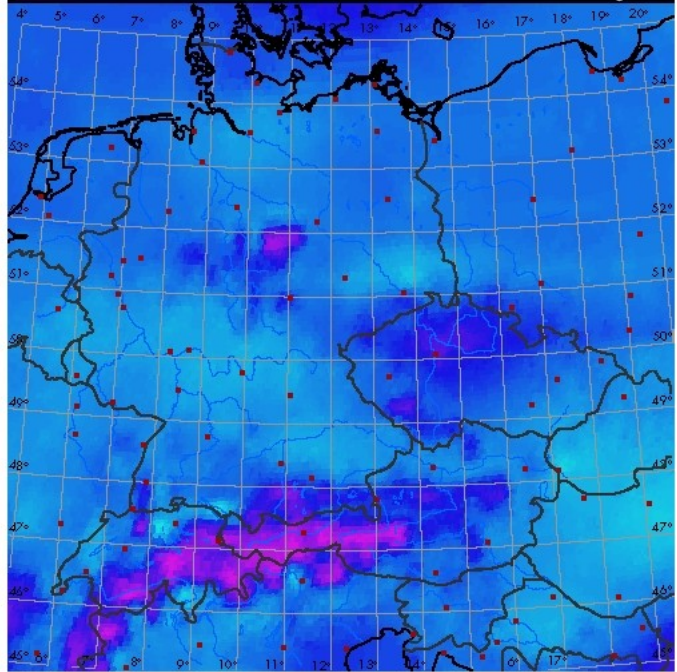
S@tel-Light Zone : G From : Sunrise To : Sunset Clock Time, 1996 to 2000  
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec All Year  
Information : Mean Linke Turbidity  
1 2 3 4 5 6 7 Date : 04/06/07  
www.satel-light.com



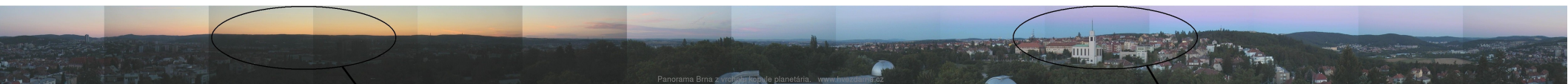
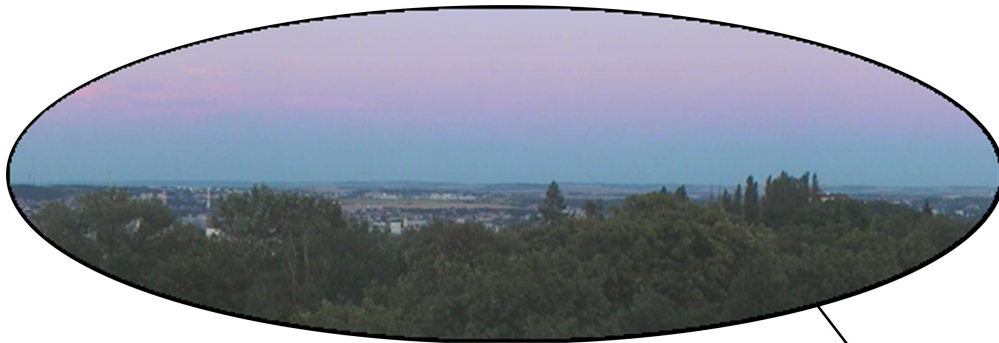
S@tel-Light Zone : G From : Sunrise To : Sunset Clock Time, 1996 to 2000  
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec All Year  
Information : Mean Linke Turbidity  
1 2 3 4 5 6 7 Date : 04/06/07  
www.satel-light.com

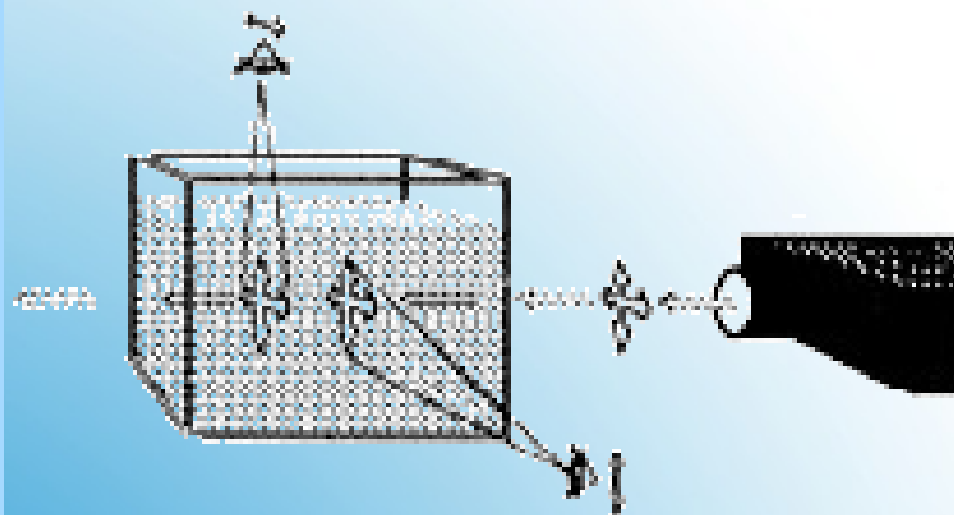
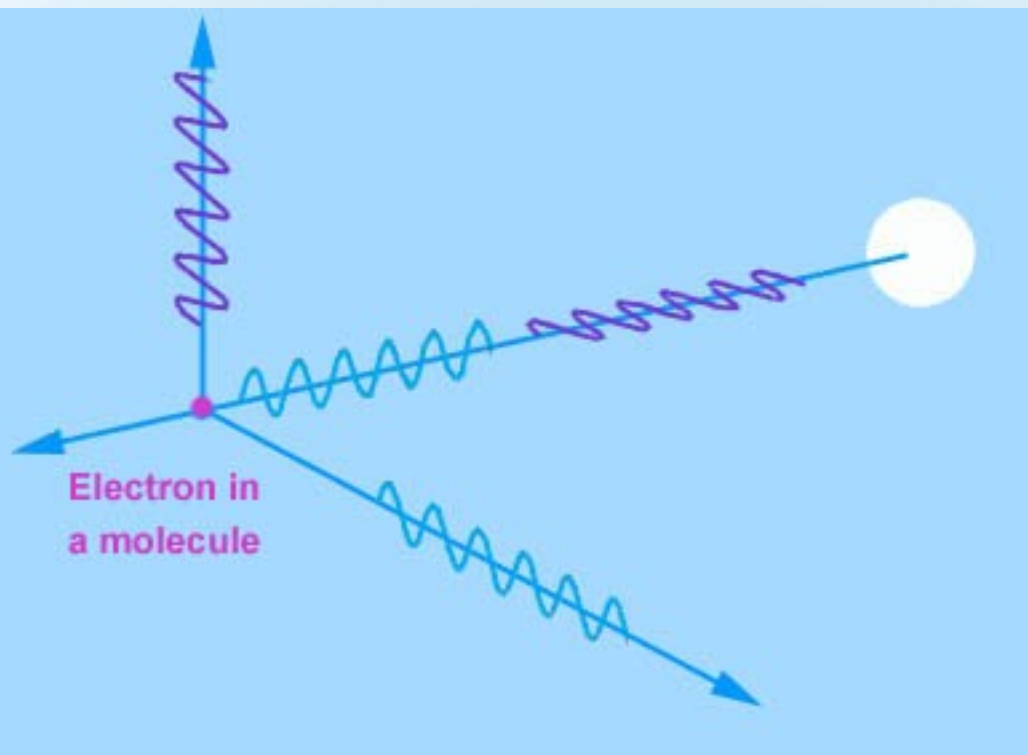


S@tel-Light Zone : G From : Sunrise To : Sunset Clock Time, 1996 to 2000  
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec All Year  
Information : Mean Linke Turbidity  
1 2 3 4 5 6 7 Date : 04/06/07  
www.satel-light.com



# Zemský stín





# Polarizace oblohy



**Polarizace oblohy**





**Polarizace oblohy**



**Polarizace oblohy**

# Zákal v kapalinách

# Secchi disc



<http://www.mainevolunteerlakemonitors.org/recertify/disk.php>

# Secchi trubice



<http://globe.terezanet.cz/hydrologie.html>

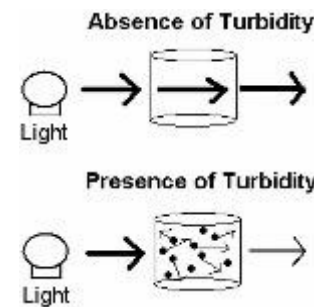
# SODIS – solární sterilizace



<http://amper.ped.muni.cz/miler/indi/waterLV.php>

# Objektivní metody měření zákalu kapalin

**1. Měření útlumu zářivého toku,**  
vhodné pro velmi zakalené vody  
např. odpadní nebo znečištěné.



**2. Měření rozptýleného záření,**  
vhodné pro vody s nízkým  
zákalem (tzv. nefelometrie a  
turbidimetrie, dle provedení  
přístroje lze také používat pro  
vody s vyšším zákalem).

