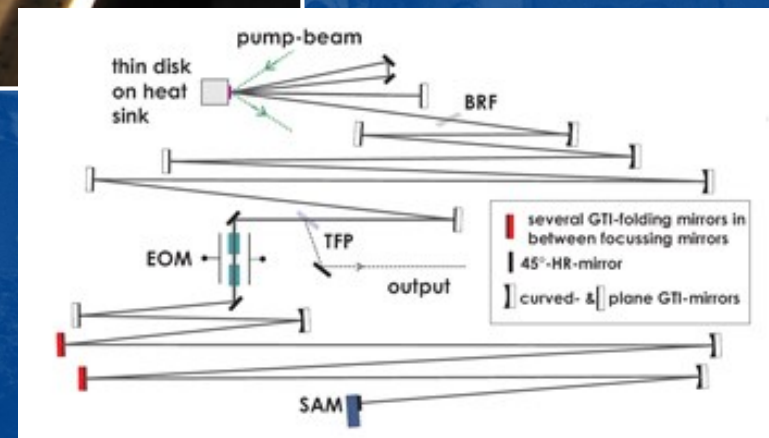
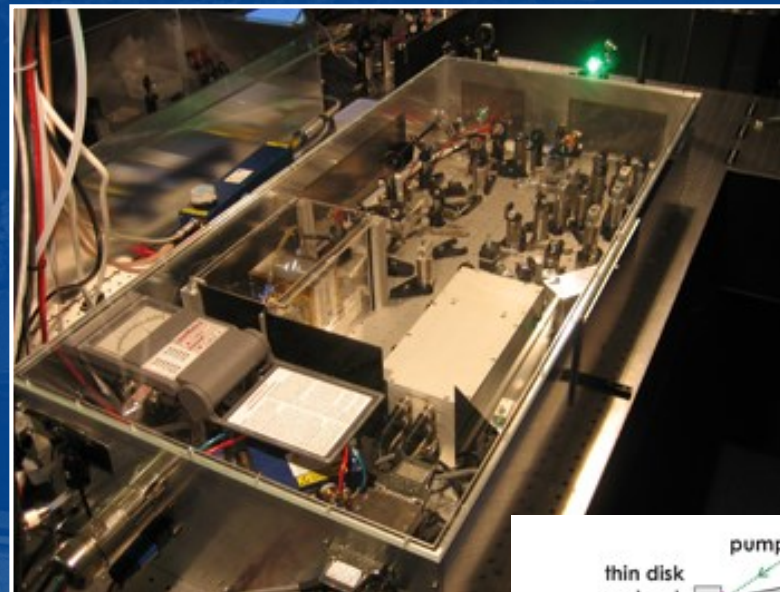
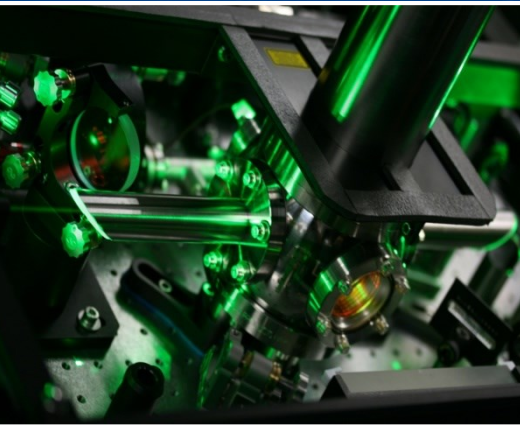
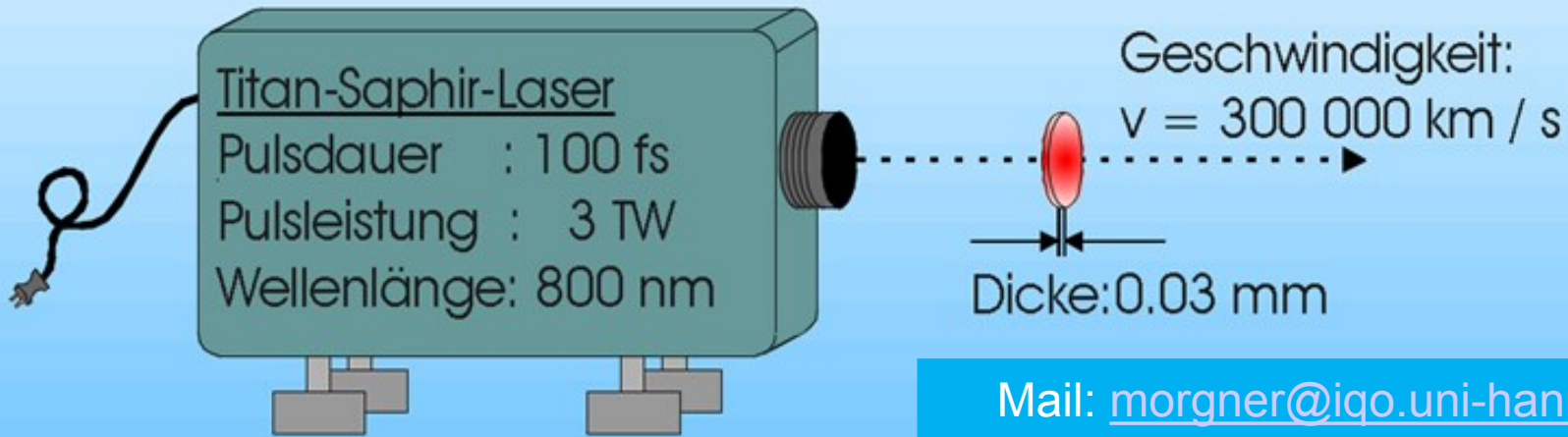


## Laserentwicklung (Design) / kurze Pulse



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<http://www.iqo.uni-hannover.de/ultrafastlaseroptics.htm>

### Lichtscheibchen

Durchmesser : 5 cm , Dicke : 0.03 mm ( < Dicke eines Haares )  
Spitzenleistung : 3 Terawatt ( 3 000 000 000 000 Watt)



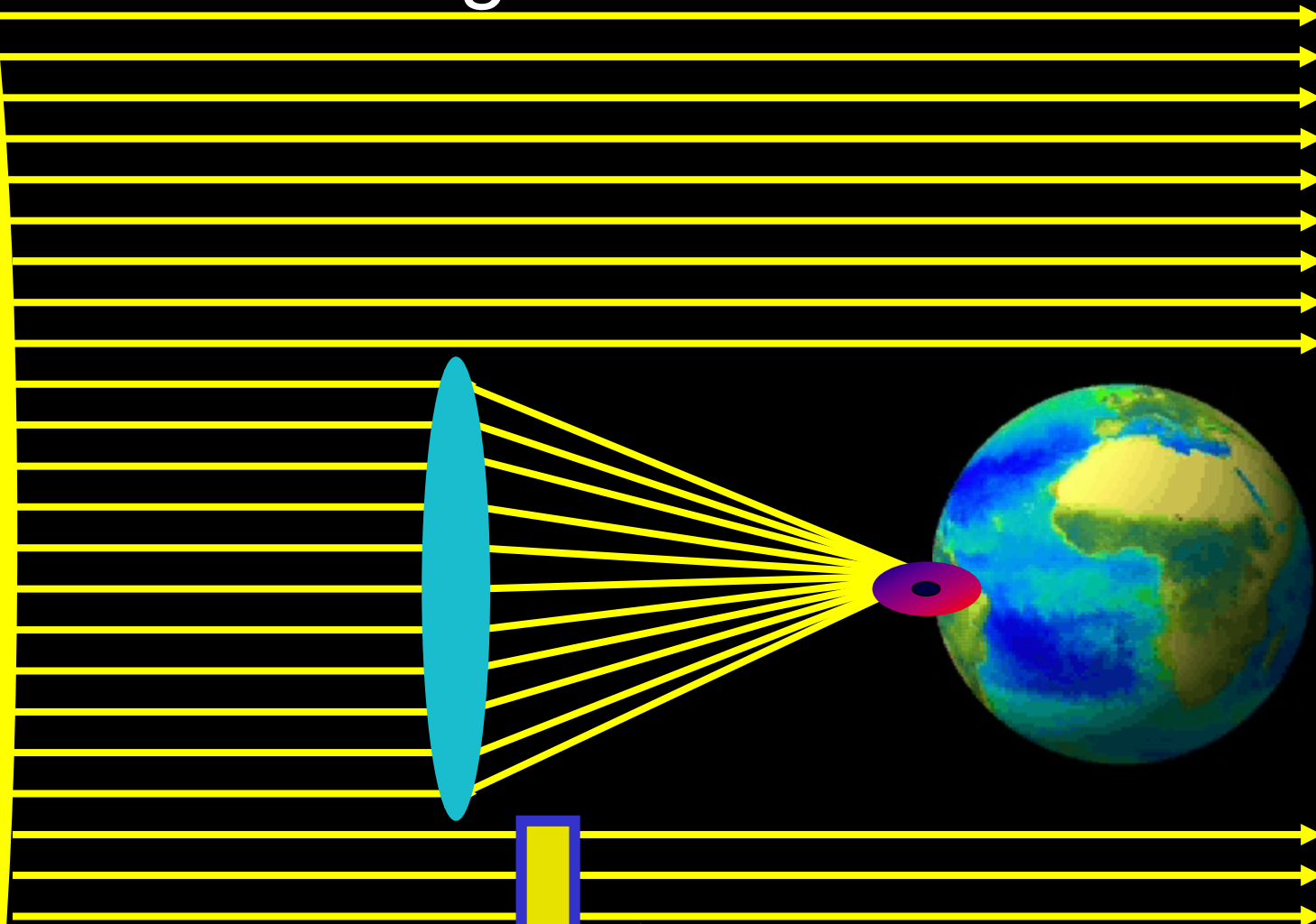
10 Millionen Porsche



Weltverbrauch elektrische Leistung

! aber nur während 0,000 000 000 000 1 Sekunden !

# AG Morgner / Kovacev



$$10^{15} \text{ W/cm}^2 = 1 \text{ PW/cm}^2$$

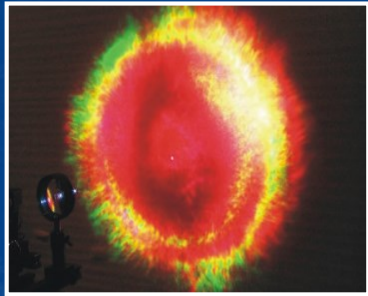
Mail: [morgner@iqo.uni-hannover.de](mailto:morgner@iqo.uni-hannover.de)  
[kovacev@iqo.uni-hannover.de](mailto:kovacev@iqo.uni-hannover.de)

<http://www.iqo.uni-hannover.de/ultrafastlaseroptics.html>

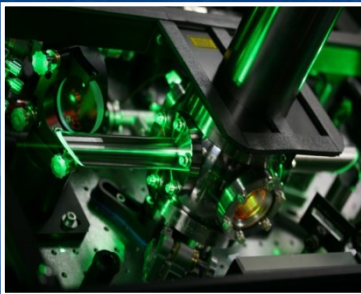
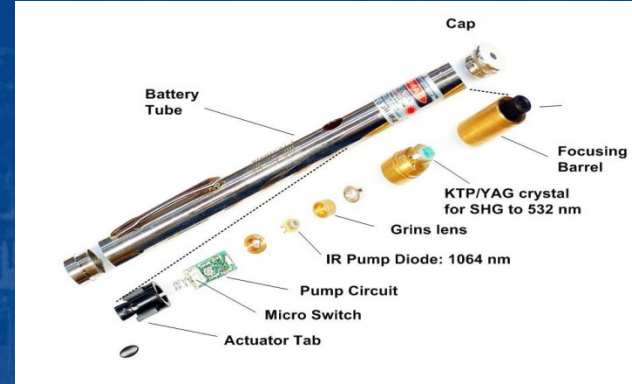


## Forschungsfelder

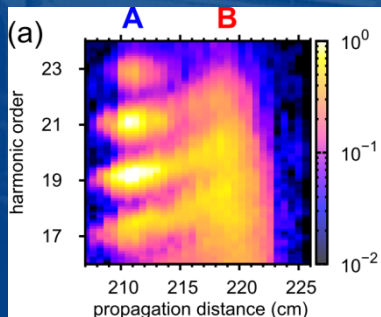
<http://www.iqo.uni-hannover.de/ultrafastlaseroptics.html>



Nichtlineare Optik  
 $\sim 10^{15} \text{ W cm}^{-2}$



Laser Design (Oszillatoren, Verstärker, Faserlaser)



Erzeugung kohärenter Röntgenstrahlung  
(Attosekundenpulse  $10^{-18}\text{s}$ )



Bildgebung mit kohärenter  
Röntgenstrahlung