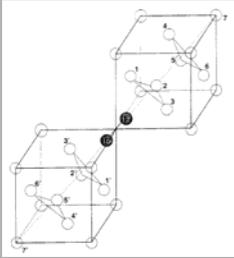




## Quanten-klassische Dynamik: Photodissoziation

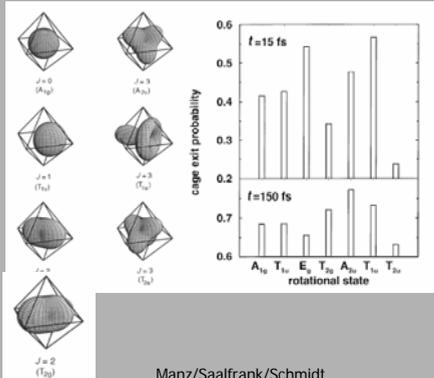
### Wahl der Systeme

HCl @ Ar, Kr, Xe  
F2 @ Ar  
ClF @ Ar



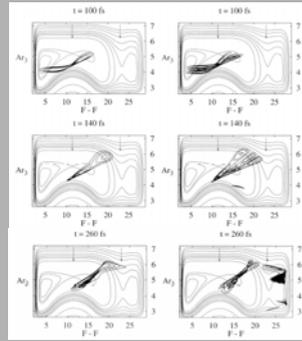
### Kontrolle durch Rotationsanregung

HCl @ Ar



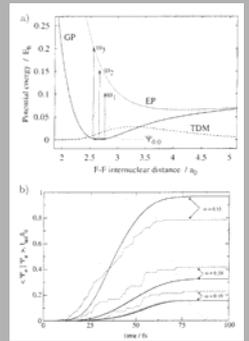
### Kontrolle durch Schwingungsanregung

F2 @ Ar



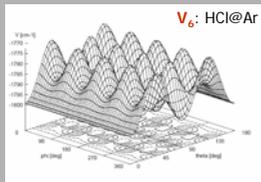
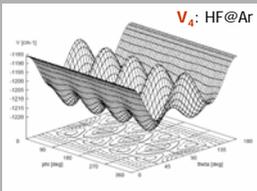
### Test der Modelle

F2 @ Ar



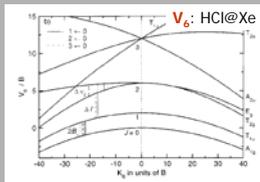
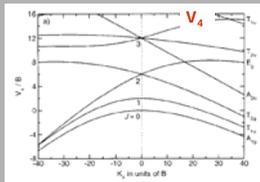
## Matrix-induzierte Effekte auf die molekulare Ausrichtung

### Oktaedrische Potentiale



Schmidt/Jungwirth  
Chem. Phys. Lett. **259**, 62 (1996)

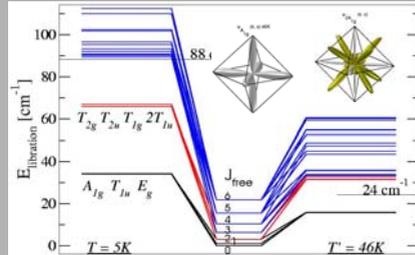
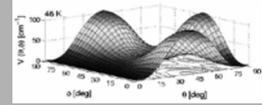
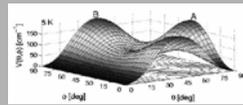
### Energieniveauschema



Berghof/Martins/Schmidt/Schwentner  
J. Chem. Phys. **116**, 9364 (2002)

### Matrix-induziertes Potential für ClF@Ar

- DIM empirische Potentiale
- Thermische MD-Simulationen



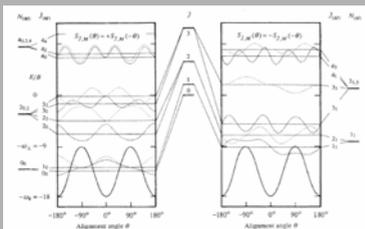
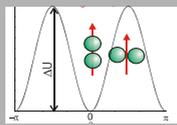
## Photo-induzierte Effekte auf die molekulare Ausrichtung

### Nicht-resonante Laser-Felder

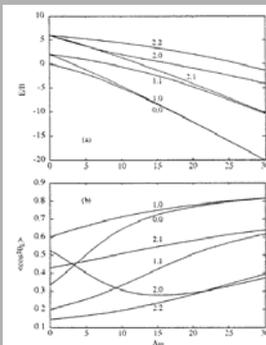
Anisotropie der Polarisierbarkeit  $\Delta\alpha$

- Effizient
- Robust
- Auch für  $T > 0$

$$H = H_0 - \frac{1}{2} \epsilon^2 [\Delta\alpha \cos^2 \theta + \alpha_c]$$

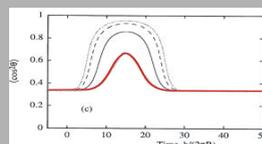


### Pendel-Zustände

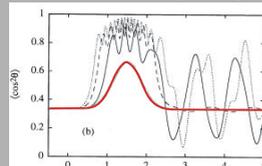


### Dynamik: Einzelpulse

#### Adiabatisch (Pendelzustände)



#### Nicht-adiabatisch (Revivals)



### Dynamik: Puls-Sequenzen

