

Cryogenic Buffer Gas Cooling of Tungsten Carbide

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- Next generation EDM search-> Need new molecules
- Problem (current molecules)
 - Limited precession time (excited states)
- Why WC (Tungsten Carbide)?
 - $^3\Delta_1$ in ground state -> long interaction time
 - Strong internal E field, small g-factor, non-radioactive
- Method: Cryogenic Buffer Gas Beam

Statistical error

$$\Delta d_e \approx \frac{\hbar}{E \tau} \frac{1}{\sqrt{\dot{n}_{mol} T}}$$

Electric field

Precession time

Number of signals

