

**Plenarvortrag** PV XI Fr 8:30 Audi-A  
**Quantum manipulation of spins and photons in diamond** —  
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We will review the current efforts that make use of Nitrogen-Vacancy impurities in diamond as artificial atoms for quantum optics and quan-

tum information science. These research efforts are at the interface between AMO and condensed matter physics, material science, photonics and quantum information science. Recent ideas and experiments involving quantum control of individual spins and photons will be described, and progress towards new applications of these techniques will be discussed.