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Title:Sensitive imaging of electromagnetic fields with paramagnetic polar molecules

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Abstract:We propose a method for sensitive parallel detection of low-frequency electromagnetic fields based on the fine structure interactions in paramagnetic polar molecules. Compared to the recently implemented scheme employing ultracold 87Rb atoms by [Bo¨hi](#), the technique based on molecules offers a 100-fold higher sensitivity, the possibility to measure both the electric and magnetic field components, and a probe of a wide range of frequencies from the dc limit to the THz regime. © 2012 American Physical Society.

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