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Causes of power broadening in EIT intensity noise spectroscopy

MICHAEL CRESCIMANNO, CHARLES SNIDER, Dept. of Physics, Youngstown State U. , SHANNON O'LEARY, Dept. of Physics, Lawrence U. — EIT noise spectroscopy is a potentially promising way to simplify magnetometer design. One technically fortuitous characteristic of this intensity noise spectroscopy is the non-power broadening behaviour. We describe quantum optics theory applied to more realistic models of EIT systems that explain the existence and range of this power broadening-free regime.

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