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**EIT Intensity Noise Spectroscopy** MICHAEL CRESCIMANNO, Youngstown State University, Dept. Physics and Astronomy, YANHONG XIAO, Harvard-Smithsonian Center for Astrophysics, MARIA BARYAKHTAR, Harvard University, MICHAEL HOHENSEE, Harvard University and the Harvard-Smithsonian Center for Astrophysics, DAVID PHILLIPS, Harvard-Smithsonian Center for Astrophysics, RON WALSWORTH, Harvard-Smithsonian Center for Astrophysics and Harvard University — Intensity noise correlations in coherently-prepared media can reveal underlying spectroscopic detail, such as power broadening-free resonances. We analyze recent experimental results using very simple theory: The intensity noise correlation spectra can be quantitatively understood entirely in terms of static ensemble averages of the medium's steady state response. This is significantly simpler than stochastic integration of the Bloch equations, and leads to physical insights we apply to non-linear Faraday rotation and noise spectra in optically thick media.

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