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Investigation of the EHO Phenomenon in DIII-D Plasmas[1] A.N. VILLANO, Rensselaer Polytechnic Institute, C.A. PETERS, UCSD, K.H. BURRELL, R.D. DERANIAN, C.E. EGGERS, M.L. WALKER, GA — In recent experimental campaigns, a phenomenon known as the edge harmonic oscillation (EHO) has been observed in a variety of DIII-D plasmas. The EHO is an edge phenomenon that exhibits a structured magnetic field oscillation on the plasma edge. There has been a strong correlation observed between the EHO phenomenon and a type of H-mode operation known as Quiescent H-mode (QH-mode) during counter injected beam discharges. Quiescent refers to the notable absence of Edge Localized Modes (ELMs) during QH-mode operation. This ELM free H-mode behaviour provides a strong motivation for developing a physics understanding of the EHO and QH-mode phenomena. Results will be presented of an investigation of the physics of the EHO using computational methods for large scale data processing. The methods used will be described and their relevance to other related physics problems will be discussed.

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☐ Prefer Oral Session
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