1147-57-384   **Cagatay Kutluhan**, **Jeremy Van Horn-Morris** and **Gordana Matić*** (`gordanam@uga.wedu`),
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Spectral Order Invariant for Contact Manifolds. Preliminary report.

We provide a refinement of the Ozsváth - Szabó contact invariant by introducing a filtration into the complex that calculates it. The spectral order invariant takes values in $Z_{\geq 0} \cup \infty$, is zero for overtwisted contact structures, ∞ for Stein fillable contact structures, non-decreasing under Legendrian surgery, and computable from any supporting open book decomposition. It gives a criterion for tightness of a contact structure stronger than the one given by the Heegaard Floer contact invariant, and provides an obstruction to existence of Stein cobordisms between contact 3-manifolds. We exhibit an infinite family of examples with vanishing Heegaard Floer contact invariant on which our invariant assumes an unbounded sequence of finite and non-zero values.

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