

**SPEAKER:**

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**TITLE:**

Local Energy Decay for Damped Wave Operators

**ABSTRACT:**

Local energy decay is a widely studied phenomenon within the field of dispersive partial differential equations. Oftentimes, one has a solution to a PDE and shows that it satisfies a local energy decay estimate. A natural continuation is to start with local energy estimates and find which operators  $P$  and space-times  $(\mathbb{R}^4, g)$  satisfy such an estimate. In this talk, we will show that local energy decay holds for a broad class of non-trapping wave operators satisfying certain spectral assumptions. To finish, we will narrow our analysis to damped wave operators, and see how one can remove the non-trapping assumption and establish a high frequency energy estimate. This will allow us to conclude local energy decay for damped wave operators.