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Outflows from neutron star merger remnant disks: nucleosynthesis and kilonovae RODRIGO FERNANDEZ, University of California, Berkeley, JONAS LIPPUNER, LUKE ROBERTS, California Institute of Technology, ALEXANDER TCHEKHOVSKOY, University of California, Berkeley, FRANCOIS FOUCART, Lawrence Berkeley National Laboratory, BRIAN METZGER, Columbia University, DANIEL KASEN, ELIOT QUATAERT, University of California, Berkeley — The accretion disk formed in a neutron star merger can drive powerful winds on timescales of 100ms to seconds after coalescence. The wind material is more strongly irradiated by neutrinos than the dynamical ejecta, and hence has a less neutron-rich composition, with implications for r-process element synthesis and the radioactively-powered kilonova transient. This talk will present preliminary results from projects aimed at quantifying (1) the nucleosynthesis yield from disks around hypermassive neutron stars, (2) the effect of MHD turbulence on mass ejection when a black hole sits at the center, and (3) the interaction between disk wind and dynamical ejecta when the relative masses of these components vary.

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