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John Eagon, Ezra Miller and Erika Ordog* (erika.ordog@duke.edu). *Sylvan structures on near-cones*. Preliminary report.

Sylvan resolutions are minimal resolutions of monomial ideals whose differentials are sums over lattice paths of weights associated to higher dimensional analogues of spanning trees. The differentials arise from splitting the boundary maps of the simplicial complexes that record the local structure of the ideal near each lattice point. When resolving stable ideals, these simplicial complexes are near-cones. By selecting certain splittings of the boundary maps of near-cones, the resulting sylvan resolution is the Eliahou-Kervaire resolution. (Received August 03, 2020)