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The HALO / HALO-2 Supernova Neutrino Detectors[1] STANLEY YEN, TRIUMF, HALO COLLABORATION, HALO-2 COLLABORATION — The Helium and Lead Observatory (HALO) is a dedicated supernova neutrino detector in SNOLAB, which is built from 79 tons of surplus lead and the helium-3 neutron detectors from the SNO experiment. It is sensitive primarily to electron neutrinos, and is thus complementary to water Cerenkov and organic scintillation detectors which are primarily sensitive to electron anti-neutrinos. A comparison of the rates in these complementary detectors will enable a flavor decomposition of the neutrino flux from the next galactic core-collapse supernova. We have tentative ideas to build a 1000-ton HALO-2 detector in the Gran Sasso laboratory by using the lead from the decommissioned OPERA detector. We are exploring several neutron detector technologies to supplement the existing helium-3 detectors. We welcome new collaborators to join us.

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