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High Energy Neutrinos from the Fermi Bubbles[1] SOEBUR RAZZAQUE, George Mason University, CECILIA LUNARDINI, Arizona State University — Recent discovery of two gamma-ray emitting bubble-shaped structures (Fermi Bubbles) at the Galactic center opens up a possibility to detect high-energy neutrinos from them as well, if the observed gamma rays have hadronic origin. This new predicted Galactic neutrino flux is hard, following gamma-ray data, compared to the atmospheric neutrino flux and can be detected with a kilometer scale neutrino telescope in the northern hemisphere, such as the planned KM3NeT, above 20-50 TeV. IceCube Neutrino Observatory at the South pole can also provide interesting constraints on the flux model. A detection or exclusion of this neutrino flux can discriminate between a leptonic or hadronic origin of the gamma-rays, as well as bring unique information on the activities at the Galactic center.

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