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The 2BIGB gamma-ray catalog: Extreme & High Synchrotron Peak 3HSP Blazars newly detected over 10 years of Fermi-LAT observations

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Here we present a large-scale likelihood analysis over all objects from the Third High Synchrotron Peak blazar (3HSP) sample, which includes 2011 sources. A total of ~1170 gamma-ray signatures are detectable down to a 3 sigma threshold, which includes ~180 new sources having no counterparts in previous Fermi-LAT catalogs, including the 1-2-3FGL, the 1-2-3FHL, and the most recent FL8Y. The gamma-ray binned analysis integrates over 10 yrs of Fermi-LAT observations at the 500 MeV to 500 GeV energy window. We build the gamma-ray spectral energy distribution for the entire sample, delivering a relevant high-energy spectral description of gamma-ray blazars, with a focus to HSP and Extreme HSP blazars. This sample is entitled as Second Brazil-ICRANet Gamma-ray Blazar catalog, holding the acronym 2BIGB, and follows as an all-sky implementation from previous works related to the 1BIGB catalog. All information will be at disposal via the Brazilian Science Data Center BSDC portal, including the broadband power-law fits and the spectral energy distribution (SED) data points.

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