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The gamma-ray monitoring of newly discovered Be/BH binary system MWC 656

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MWC 656 is a Be star with a black hole (BH) companion, being the first and unique Be/BH binary system found. The detected X-ray counterpart implies that MWC 656 is, as well, the first Be/BH X-ray binary found. We carried out a search in archival AGILE data and found ten gamma-ray flares compatible with the position of the binary system, although no periodicity in the gamma-ray activity has been detected, so far. We report on the spectral fitting for both X-ray and gamma-ray data. The derived non-thermal X-ray luminosity of the system, together with radio luminosity upper limits, makes MWC 656 compatible with the radio/X-ray luminosity correlation found for LMXBs. MWC 656 is located at the level of the faintest detected LMXBs, thus suggesting that this correlation might also be valid for HMXBs with very low X-ray luminosities.

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