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On some equivalent geometric properties in the Besicovitch-Orlicz space of almost periodic functions with Luxemburg norm

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Abstract: The paper is concerned with the characterization and comparison of some local geometric properties of the Besicovitch-Orlicz space of almost periodic functions. Namely, it is shown that local uniform convexity, H -property and strict convexity are all equivalent. In our approach, we first prove some metric type properties for the modular function associated to our space. These are then used to prove our main equivalence result.

Keywords: locally uniform convexity, strict convexity, H -property, Besicovitch-Orlicz space, almost periodic functions

AMS Subject Classification: 46B20, 42A75

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