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Properties of the Object HESS J1731-347 as a Twin Compact Star

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By consideration of the Compact object HESS J1731-347 as a hybrid twin compact star, i.e., a more compact star than its hadronic twin of the same mass, its stellar properties are derived. Besides showing that the properties of compact stars in this work are in good agreement with state-of-the-art constraints both from measurements carried out in laboratory experiments as well as by multi-messenger astronomy observations, the realization of an early strong hadron-quark first order phase transition as implied by the twins is discussed.

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