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Field localization and Nambu Jona-Lasinio mass generation mechanism in an alternative 5-dimensional brane model[1] PRESTON JONES, Department of Physics, Cal Poly, DOUG SINGLETON, GERARDO MUNOZ, Department of Physics, California State University Fresno, TRIYANTA TRIYANTA, Institut Teknologi Bandung — We consider a 5-dimensional brane world model with a single brane which is distinct from the well known Randall-Sundrum model. We discuss the similarities and differences between our brane model and the Randall-Sundrum brane model. In particular we focus on the localization of 5D fields with different spins – spin 0,spin 1/2, spin 1 – to the brane, and a self-consistent mass generation mechanism. We find that the brane model studied here has different (and in some cases superior) localization properties for fields/particles with different spins to the brane, as compared to the original 5-dimensional brane models. In addition this alternative 5D brane model exhibits a self generation mechanism which recalls the self-consistent approach of Nambu and Jona-Lasinio. arXiv:1307.3599v1.

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Preston Jones
Department of Physics, Cal Poly

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