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SpaceMath version 1.0: A Mathematica package for beyond the standard model parameter space searches.

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We present a Mathematica package, called SpaceMath, for Beyond the Standard Model (BSM) parameter space searches which agree with the most up-to-date experimental measurements. The physical observables implemented in SpaceMath are classified in five categories, namely, LHC Higgs boson data (LHC-HBD), Flavor-Violating Processes (FVP), Oblique Parameters (OP), Unitarity and perturbativity (UP) and Meson Physics (MP). Nevertheless, SpaceMath version 1.0 (SpaceMath v1.0) works only with LHC-HBD and with extended scalar sector models. Future versions will implement the observables previously mentioned.

SpaceMath v1.0 is able to find allowed regions for free parameters of extension models by using LHC-HBD within a friendly interface and an intuitive environment in which users enter the couplings, set parameters and execute Mathematica in the traditional way. We present examples, step by step, in order to start new users in a fast and efficient way. To validate SpaceMath v1.0, we reproduce results reported in the literature.

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