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Multi-Higgs Doublet Models and softly-broken symmetries

Tuesday 28 January 2025 16:00 (12 minutes)

The objective of this project is to use a $\Sigma(36)$ potential, select a specific VEV, and activate one of the soft-breaking parameters that does not preserve the chosen VEV alignment. The goal is to develop a method to minimize the potential and identify its minima. With this new VEV, the mass matrix of the Higgs sector will change, allowing the determination of the masses of the physical scalars.

Additionally, it would be interesting to investigate possible decays into non-standard Higgs particles.

This project also aims to provide an introduction to research in particle physics, particularly in MHDM and symmetries.

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