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**Classification of three-generation models on magnetized orbifolds.** (English) Zbl 1328.81219  
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Summary: We classify the combinations of parameters which lead three generations of quarks and leptons in the framework of magnetized twisted orbifolds on  $T^2/Z_2$ ,  $T^2/Z_3$ ,  $T^2/Z_4$ , and  $T^2/Z_6$  with allowing nonzero discretized Wilson line phases and Scherk-Schwarz phases. We also analyze two actual examples with nonzero phases leading to one-pair Higgs and five-pair Higgses and discuss the difference from the results without nonzero phases studied previously.

**MSC:**

**81V05** Strong interaction, including quantum chromodynamics

**81V15** Weak interaction in quantum theory

**57R10** Smoothing in differential topology

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**Keywords:**

nonzero discretized Wilson line phases; Scherk-Schwarz phases

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