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Collider Consequences of Baryogenesis and Dark Matter from B Mesons

In this talk based on ArXiv:1810.00880, I will detail what are the different approaches by which current collider experiments can test whether Baryogenesis and Dark Matter arise from CP violating B meson oscillations and their subsequent decays in the early Universe. These are:

1) Searches for heavy colored scalars (ATLAS, CMS).
2) Measurements of direct CPV in the B meson system (LHCb, Belle-II, ATLAS, CMS).
3) Searches for indirect CPV in the neutral B meson system (LHCb, Belle-II, ATLAS, CMS).
4) Searches for a new decay mode of B mesons into Missing energy and a visible Baryon (LHCb, Belle-II).
5) Searches for a new decay mode of b-flavored baryons into missing energy and mesons (LHCb).

I will of course focus on those relevant for the LHCb experiment, (2-5).

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