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## Searches for New Physics in $B$ -meson Decays to Vector Mesons and Charmless Final States at LHCb

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$B$ -meson decays into two vector mesons,  $B \rightarrow VV$ , constitute a class of decays of special interest. These decays are generally mediated by both loop and tree processes, making the measurement of their CP asymmetries, polarisation variables, and branching fractions especially interesting and challenging. For  $B \rightarrow VV$  decays, any enhancement in one of those variables would be a hint for new physics. Also, searches for new decay modes and branching fraction measurements are performed in charmless decays. Measuring these branching fractions and comparing them with theoretical predictions provides valuable insights into various theoretical frameworks, contributing to refined predictions for branching fractions and CP asymmetries in other charmless decay modes. These measurements serve as tests of the Standard Model, where deviations could signal the presence of New Physics. This talk will provide an overview of recent LHCb results covering these studies.

### Secondary track

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