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Optimising sensitivity to γ with B0⟶DK+π−, D⟶K0Sπ+π− double Dalitz plot analysis

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Two of the most powerful methods currently used to determine the angle γ of the CKM Unitarity Triangle exploit B+⟶DK+, D⟶K0Sπ+π− decays and B0⟶DK+π−, D⟶K+K−, π+π− decays. It is possible to combine the strengths of both approaches in a "double Dalitz plot"analysis of B0⟶DK+π−, D⟶K0Sπ+π− decays. The potential sensitivity of such an analysis is investigated in the light of recently published experimental information on the B0⟶DK+π− decay. The formalism is also expanded, compared to previous discussions in the literature, to allow B0⟶DK+π− with any subsequent D decay to be included.

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