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Form factors in the $B_s \rightarrow K l \nu$ decays using HQET and the lattice

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We report on a recent computation of the form factors in semi-leptonic decays of the B_s using Heavy Quark Effective Theory (HQET) formalism applied on the lattice. The connection of the form factors with the 2-point and 3-point correlators on the lattice is explained, and the subsequent non-perturbative renormalization of HQET and its matching to $N_f = 2$ QCD is outlined. The results of the (static) leading-order calculation in the continuum limit is presented. Preliminary results on extending the leading-order computation by including the $1/m$ effects (where m is the heavy-quark mass) are mentioned.

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