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The "Ghost" Symmetry of the BKP hierarchy

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In this paper, we systematically develop the "ghost" symmetry of the BKP hierarchy through its actions on the Lax operator L, the eigenfunctions and the τ function. In this process, the spectral representation of the eigenfunctions and a new potential are introduced by using squared eigenfunction potential(SEP) of the BKP hierarchy. Moreover, the bilinear identity of the constrained BKP hierarchy and Adler-Shiota-van-Moerbeke formula of the BKP hierarchy are re-derived compactly by means of the spectral representation and "ghost" symmetry.

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