

*Abstract*

# On Conservation Laws of Generalized KP and Boussinesq Equations in Two Dimensions <sup>†</sup>

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Nonlinear generalizations of integrable equations in one-dimension, such as the KdV and Boussinesq equations with p-power nonlinearities, arise in many physical applications and are interesting in analysis due to their critical behaviour. In this talk, we study analogous nonlinear generalizations of the integrable KP equation and the 2D Boussinesq equation. We give a complete classification of low-order conservation laws and Lie symmetries for these two-dimensional equations with p-power nonlinearities. We also consider exact solutions obtained by symmetry reduction.



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