

## Bell 多项式在经典 Boussinesq 方程中的应用

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## Bilinear Bäcklund Transformation for Classical Boussinesq Equation

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**摘要** 本文借助于 Bell 多项式研究经典 Boussinesq 方程, 将其转换成 Hirota 双线性形式, 构造了带参数的 Bäcklund 变换, 进而重新导出了其 Lax 表示.

**关键词:** [经典 Boussinesq 方程](#) [Bell 多项式](#) [Hirota 双线性形式](#) [Bäcklund 变换](#) [Lax 对](#)

**Abstract:** The classical Boussinesq equation is revisited. By means of Bell polynomials, this equation is bilinearized. Furthermore, a Bäcklund transformation, consisting of four equations with an essential parameter, is constructed for it. Also, its Lax pair is recovered.

**Key words:** [classical Boussinesq equation](#) [Bell polynomial](#) [Hirota bilinear form](#) [Bäcklund transformation](#)  
[Lax pair](#)

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