

## A two-parameter Bäcklund transformation for the Boussinesq equation

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## Corrigendum

### A two-parameter Bäcklund transformation for the Boussinesq equation

Huang Xun-Cheng 1982 *J. Phys. A: Math. Gen.* **15** 3367–72

Equation (7a) on page 3368 should not be used, and making use of equations (7b), (7c), (6b), (7d) and (5) on the same page, we should have:

$$\begin{aligned}
 P &= -2D_t(D_t f' \cdot f) \cdot ff' + 2D_x[(D_x + D_x^3)f' \cdot f] \cdot ff' + 6D_x(D_x^2 f' \cdot f) \cdot (D_x f \cdot f') \\
 &= 2D_t(D_t f \cdot f') \cdot ff' + 2[-aD_t(D_x^2 f \cdot f') \cdot ff' + aD_x(D_t f \cdot f') \cdot (D_x f \cdot f')] \\
 &\quad - 2\xi D_x[(\xi D_x - aD_x^2)f \cdot f'] \cdot ff' + 6D_x(D_x^2 f' \cdot f) \cdot (D_x f \cdot f') \\
 &= -2\xi D_x[(D_t - aD_x^2 + \xi D_x)f \cdot f'] \cdot ff' + 2D_x[(aD_t + 3D_x^2)f \cdot f'] \cdot (D_x f \cdot f') \\
 &\quad + 2a\xi D_x(D_x f \cdot f') \cdot (D_x f \cdot f') \\
 &= 2D_x[(aD_t + 3D_x^2 + a\xi D_x)f \cdot f'] \cdot (D_x f \cdot f'),
 \end{aligned}$$

which is just equation (12) on page 3369.