

Pacific Journal of Mathematics

**CORRECTION TO: "THE REFLECTION PRINCIPLE FOR
POLYHARMONIC FUNCTIONS"**

ALFRED HUBER

CORRECTION TO THE PAPER "THE REFLECTION PRINCIPLE FOR POLYHARMONIC FUNCTIONS"

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Dr. Avner Friedman kindly drew our attention to an error in *The reflection principle for polyharmonic function* (this Journal 5 (1955), 433-439). On p. 436 we stated that the operator (2.1) transforms $x_1^{\nu_1} x_2^{\nu_2} \cdots x_n^{\nu_n}$ into $(-1)^{\nu_1} x_1^{\nu_1} x_2^{\nu_2} \cdots x_n^{\nu_n}$ for $p \leq \nu_1 \leq 2p-1$. Counterexamples show that this is not generally true. In our proof we had overlooked the fact that the formula on p. 437 does not represent σ if $2k^* > 2p-1-\nu_1$.

Correction. The statement is valid under the additional hypothesis that $\nu_1 + \nu_2 + \cdots + \nu_n \leq 2p-1$. Indeed, then a direct verification yields $\sigma=0$ in the case $2k^* > 2p-1-\nu_1$.

In order to close the gap which now appears in the proof of the theorem we first observe that the operator (2.1) transforms $x_1^{\nu_1} x_2^{\nu_2} \cdots x_n^{\nu_n}$ into a sum of terms of degree $\nu_1 + \nu_2 + \cdots + \nu_n$. From this and the above assertion we infer that (3.8) is true if

$$(A) \quad p \leq \nu_1 \leq 2p-1 \quad \text{and} \quad \nu_1 + \nu_2 + \cdots + \nu_n \leq 2p-1.$$

Hence, under the same assumptions,

$$(B) \quad \frac{\partial^{\nu_1 + \nu_2 + \cdots + \nu_n} w(-x_1, x_2, \cdots, x_n)}{\partial x_1^{\nu_1} \partial x_2^{\nu_2} \cdots \partial x_n^{\nu_n}} = \frac{\partial^{\nu_1 + \nu_2 + \cdots + \nu_n} v(x_1, x_2, \cdots, x_n)}{\partial x_1^{\nu_1} \partial x_2^{\nu_2} \cdots \partial x_n^{\nu_n}},$$

everywhere on S . We conclude that (B) and (3.8) remain valid if the second condition (A) is dropped. Now we can follow the previous reasoning.

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