

Corrections to

“Some Remarks on Maximum Principles”, by L. E. Payne
Journal d'Analyse Mathématique, Vol. 30, 1976, pp. 421–433.

Theorem II should read as follows:

Theorem II. Let $u \in C^2(\bar{D})$ vanish on a portion Γ_1 of ∂D and satisfy

$\int_{\partial D - \Gamma_1} u \frac{\partial u}{\partial \nu} ds \leq 0$. Then if the average curvature K is positive at every point of Γ_1 , the maximum value of

$$|\text{grad } u|^2 - 2u \Delta u$$

cannot occur on Γ_1 unless $u \equiv 0$ in \bar{D} .

Equation (2.10) should read

$$\frac{\partial H}{\partial \nu} = -2(n-1)K(\Delta u)^2.$$

The sign in front of the last term in (3.20) should be minus instead of plus.

The following changes are to be made in equations (5.2)–(5.7):

Equation (5.2): $(\Delta u)_M$ should be $-(\Delta u)_m$;

Equation (5.3) should read $(\Delta u)_m = \min_{x \in \partial D} \Delta u$;

Equation (5.4): $[(\Delta u)_M - \Delta u]$ should be $[\Delta u - (\Delta u)_m]$;

Inequality (5.5) should read

$$u_{,ij}u_{,ij} - u_{,i}\Delta u_{,i} + \int_0^u f(\eta) d\eta - \frac{1}{4}[\Delta u - (\Delta u)_m]^2 \leq M^2;$$

In the line following (5.6), $(\Delta u)_M$ should be $-(\Delta u)_m$;

Inequality (5.7): $(\Delta u)_M^2$ should be $[(\Delta u)_m]^2$.