

3251930770

3274 3113 3147

3228

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3085F

307413098

Nonlinear solution:—The nonlinear solution is given by

$$\begin{bmatrix} \text{Re } I_2 & \text{Im } I_1 \\ \text{Im } I_2 & \text{Re } I_1 \end{bmatrix} \frac{1}{j} = \begin{bmatrix} \text{Re } I_3 & \text{Im } I_4 \\ \text{Im } I_3 & \text{Re } I_4 \end{bmatrix}$$

where I_k is the complex power, $I_k = P_k + jQ_k$.

$$I_1 = \frac{1}{2} f J_0^2 k_i + J_1^2 k_i g$$

$$I_2 = I_1 - \frac{c^2}{2} f H_0^2 k_o + H_1^2 k_o g$$

$$I_3 = \frac{1}{0} f j$$

The first part of the proof is devoted to the case $n = 1$. In this case, the set B is a single point a . The function f is constant on B , and the result follows immediately. For $n \geq 2$, we consider the set B as a union of two disjoint sets B_1 and B_2 . The function f is constant on each of these sets, and the result follows from the induction hypothesis.

For $n = 3$, let a, a', a'' be three distinct points in B . The function f is constant on each of the sets $\{a, a'\}$, $\{a, a''\}$, and $\{a', a''\}$. The result follows from the induction hypothesis.