

## 修正节点接入导纳潮流算法

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### 摘要

针对牛顿-拉夫逊法初值选取不当和PQ分解法受网络RX比例影响造成的计算不收敛问题, 提出了一种修正节点接入导纳的潮流算法。理论证明该算法是正确的。算例分析表明, 该方法收敛可靠、计算速度快, 同时不受RX比例与初值选取的影响。

关键词 [电力系统](#); [潮流计算](#); [牛顿-拉夫逊法](#); [PQ分解法](#); [注入功率](#)

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## Power Flow Algorithm by Amending Injected Admittance

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### Abstract

In the light of the problems that the initial value of voltage selected for Newton-Raphson algorithm is incorrect and the PQ decoupled power flow does not converge while the condition of  $x \gg r$  is not satisfied, a novel power flow algorithm, in which the injected power of bus is equivalent to the injected admittance of bus, is proposed. The correctness of the proposed algorithm is proved in theory. Simulation results of the proposed algorithm by IEEE 30-bus system and IEEE 33-bus distribution system show that by use of the proposed algorithm the power flow can converge reliably and the calculation is fast. The proposed algorithm is not affected by the selection of initial value and the ratio of  $x$  to  $r$ .

Key words [power system](#); [power flow calculation](#); [Newton-Raphson algorithm](#); [PQ decoupled power flow](#); [injected power](#)

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