

## **Power system modelling for object-oriented power flow**

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### **SUMMARY**

The well-established power flow methods (Gauss-Seidel, Newton-Raphson, and Fast-Decoupled) are all based on classical methodologies of applied mathematics. Classical computer programs for solving the power flow based on these methods have been in practical use for a relatively long number of years. All of these programs met with strict limitations to power network size and calculation speed. With the development of object-oriented programming and applying sparse matrix storage and operations methodology new boundaries are being set for power flow calculations. This paper presents fundamental concepts of applying object-oriented programming and sparse matrix algebra to power system modelling for the purposes of power flow calculations. The results are discussed and compared to those obtained by conventional methods.

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