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State of the Art Computational Methods using Auxiliary Sources

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Representing the solution of a boundary-value problem as a finite superposition of fields due to fictitious (auxiliary) sources located outside the domain of interest with complex amplitudes (currents) determined by the boundary conditions on the physical boundary lies at the core of many widely used numerical methods. These include the methods of fictitious sources, auxiliary sources, fundamental solutions, the source model technique, the multifilament current model, and the discrete sources method and analyze wave phenomena in diverse application areas, such as electromagnetics, optics, acoustics, and elasticity. The purpose of this session is to bring together research groups from different domains to present recent advances in computational methods employing auxiliary sources which are utilized efficiently in the modeling of state-of-the-art applications.