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# Scattering by multiple cylinders located on both sides of an interface

Siu -Chun Lee

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**Highlights**

- Developed a general solution for scattering by cylinders located in front of and buried in a semi-infinite medium, as well as located in both half spaces.
- Accounted for near-field scattering, surface interaction, coupling between both half spaces, and irradiation by propagating and evanescent wave.
- Derived formulas for the EM fields and Poynting vector in the far-field.
- Illustrated the frustration of total internal reflection and scattering of light beyond the critical angle.

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