

UMAPORN NUNTAPLOOK

Research Activities

Areas of Expertise

Mathematical Physics; Mathematical Modelling

Current Interests and Activities

My current research interests are involved with applying computational methods to problems in the fields of mathematical physics including the topics in electromagnetism, acoustics, and potential scattering theory. The models are focused on the materials in the shape of multi-layer spheres. Each layer has different refractive indices, which can be both constant and variable values. For the fields of mathematical modelling, special techniques are used to solve the problems involving partial differential equations. Special functions such as Riccati-Bessel functions and Hypergeometric functions are considered. Moreover, the study of the natural phenomena problems such as glitter paths, rainbows, glory clouds, and halos are continuously being researched.