Abstract :

In this paper, a binary variant of the teaching learning optimization technique is used to the design and thinning of linear and planar arrays. The purpose of the optimization task is to enhance the ratio directivity/sidelobe level which turns out to be having two conflicting parameters. The binary variant of the teaching learning optimization technique searches the way of exciting some selected elements. The array thinning problem requires some elements to be excited with the others having no current in them. This is a binary (ON-OFF) problem that requires an optimization technique that can handle the binary variables. The teaching learning optimization has been proposed initially to handle real valued variables. The results show good agreement between the desired and calculated radiation patterns with reduction in resource usage in terms of power consumption.