

## **Carbon nanotube — poly pyrrol based microwave resonant circuit for napropamide detection**

### **ABSTRACT**

In this paper the design and development of microstrip disk resonator for measuring the amount of Napropamide in water is presented. Different type of disk resonator coated with poly pyrrol donated by single-wall carbon nanotubes is simulated using CST software. From simulation results, the resonant frequency of the disk resonator is changed from 7.4 GHz to 6.8 GHz after applying napropamide to the top of resonator. This technology has the capability to construct network sensor systems to measure the amount of napropamide in shielded environment in future research.

**Keyword:** Carbon nanotube (CNT); Microwave; Napropamide; Pol pyrrol; Resonant frequency