Guidelines for Student Reports

Sistema di monitoraggio continuo di inquinanti dell'acqua basato sulla misura della epsilon nel campo delle microonde

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Abstract

Per motivi di sicurezza della salute pubblica esiste un notevole interesse nello sviluppo di sistemi in grado di monitorare in tempo reale le caratteristiche dell'acqua al fine di generare tempestivi segnali (ed azioni) di allarme in caso di iniezione nelle condutture di sostanze inquinanti/tossiche a seguito di attacchi terroristici, operazioni errate da parte degli operatori degli impianti o a causa di eventi catastrofici. L'utilizzo delle microonde come agenti fisici in grado di interagire con i campioni di acqua sotto test sembra essere una valida alternativa all'utilizzo di reagenti chimici o esseri viventi dotati di particolare sensibilità agli inquinanti. La base scientifica di partenza è costituita da un'ampia letteratura dove vengono descritte le differenti tecniche di misura delle caratteristiche dielettriche di materiali solidi e liquidi, con particolare attenzione a metodologie che non richiedano complessi e economicamente onerosi sistemi HW.

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