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Analysis of measurement principles of FMCW and guided microwave RADAR instruments for level measurement

In this paper basic measurement principles of FMCW (Frequency modulated continues wave) and guided radars are described. Correct choosing and correct usage of instruments can considerably decrease investment cost, installation costs and maintenance costs. Knowledge about physical principles on which is based measurement is necessary for estimation of possibilities of measurement electronic circuitry and possibilities of modern technologies.

Key words: FMCW (Frequency modulated continuous wave) RADAR
Guided RADAR

Analiza principa rada FMCW i vođenih mikrovalnih radara za mjerenje razine

U ovom radu objašnjeni su osnovni principi rada FMCW (Frequency modulated continues wave) i vođenih mikrovalnih radara. Pravilan odabir i pravilna upotreba ovih uređaja može u znatnoj mjeri smanjiti investicijske troškove, troškove montaže i troškove održavanja. Poznavanje fizikalnih principa na kojima se temelje postupci mjerenja neophodno je kod procjene mogućnosti mjernog elektroničkog sklopovlja kao i procjena mogućnosti suvremenih tehnologija.

Ključne riječi: FMCW (Frequency modulated continuous wave) radar
Vođeni radar