Guidelines for Student Reports

SINTESI DI ARRAY DI GRANDI DIMENSIONI UTILIZZANDO LA TECNICA DEL SUB-ARRAYING

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Abstract

Data un'antenna di grandi dimensioni a cui non è possibile assegnare un guadagno per ciascun elemento (costi troppo elevati e impossibilità fisica di realizzare il dispositivo), l'obiettivo è quello di aggregare gli elementi in sub-array ed assegnare a ciascun sub-array un guadagno al fine di generare un pattern voluto/target.

DEFINIZIONI

(1) Sub-arraying:
c(m)=[1:Q], m=1,..., M - Aggregazione in Q sub-array
g(q), q=1,...,Q - Guadagni di sub-array

(2) Funzione di costo da minimizzare:
D=INTEGRALE(theta){[BPA(theta)-BPa(theta)]^2/BPA(theta)^2}

A(m) - Eccitazioni pattern target A
a(m) - Eccitazioni pattern compromesso a
BPA(theta) - Beam pattern target A
BPa(theta) - Beam pattern compromesso a

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