

Analisa pengaruh variasi nilai coupling coefficient terhadap respons spektral cross dan direct coupled fiber optic ring resonator cforr dan dforr untuk optimasi kinerja = analysis of effect of coupling coefficient value variation on spectral response of cross and direct coupled fiber optic ring resonator forr for performance optimization / Sasono Rahardjo

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Abstrak

[ABSTRAK

Riset ini menganalisa pengaruh variasi coupling coefficient () terhadap respons spektral fiber optic ring resonator (FORR) dengan konfigurasi cross (CFORR) dan direct (DFORR). Formula kedua konfigurasi telah dibuat dengan pertimbangan respons spektral pada coupling coefficient () yang diubah dengan nilai 0,01~0,99; dan hasil riset menunjukkan karakter respons CFORR dan DFORR yang nonlinear dan berkebalikan. Dengan membesarnya nilai , intensitas keluaran CFORR saat kondisi resonansi turun hingga tercapai titik minimum saat = 0,93; untuk kembali naik secara tajam, sedangkan, intensitas keluaran DFORR turun secara tajam hingga tercapai titik minimum pada = 0,07; dan akan naik kembali. Hasil eksperimen telah mengkonfirmasi kebenaran analisa.;

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ABSTRACT

This research analyzes the effect of coupling coefficient () variation on the spectral response of cross- and direct-coupled optical fiber ring resonator (FORR). Formulae for both configurations have been made with consideration of the spectral response on the coupling coefficient with varied values of 0.01 ~ 0.99, and show response characters of CFORR and DFORR are non linear and opposite.

With the increasing of ;

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drops, until its minimum at = 0.93, and will rise sharply. Meanwhile, the

DF

048663;#1048659;#1048664;#1048663;#1048579;#1048652;#1048657;#1048663;#1048648
;#1048657;#1048662;#1048652;#1048663;#1048668;#1048579;#1048649;#1048644;#104
8655;#1048655;#1048662;#1048579;#1048662;#1048651;#1048644;#1048661;#1048659;#
#1048655;#1048668;#1048579;#1048664;#1048657;#1048663;#1048652;#1048655;#10485
79;#1048652;#1048663;#1048662;#1048579;#1048656;#1048652;#1048657;#1048652;#1
048656;#1048664;#1048656;#1048579;#1048659;#1048658;#1048652;#1048657;#1048663
;#1048579;#1048644;#1048663;#1048579;#1048654; = 0.07, and

will rise again. Experimental results have confirmed the results of this analysis., This research analyzes the effect of coupling coefficient (#1048654;) variation on the spectral response of cross- and direct-coupled optical fiber ring resonator (FORR).

Formulae for both configurations have been made with consideration of the spectral response on the coupling coefficient #1048654; with varied values of 0.01 ~ 0.99, and show response characters of CFORR and DFORR are non linear and opposite.

With the increasing of #1048654;

#1048665;#1048644;#1048655;#1048664;#1048648;#1048591;#1048579;
#1048614;#1048617;#1048626;#1048629;#1048629;#1048758;#1048662;#1048579;
#1048658;#1048664;#1048663;#1048659;#1048664;#1048663;#1048579;
#1048652;#1048657;#1048663;#1048648;#1048657;#1048662;#1048652;#1048663;#104
8668;#1048579; #1048644;#1048663;#1048579;
#1048661;#1048648;#1048662;#1048658;#1048657;#1048644;#1048657;#1048663;#104
8579;

#1048646;#1048658;#1048657;#1048647;#1048652;#1048663;#1048652;#1048658;#104
8657;#1048579;

drops, untill its minimum at #1048654; = 0.93, and will rise sharply. Meanwhile, the

DF#1048626;#1048629;#1048629;#1048758;#1048662;#1048579;#1048658;#1048664;#1
048663;#1048659;#1048664;#1048663;#1048579;#1048652;#1048657;#1048663;#1048648
;#1048657;#1048662;#1048652;#1048663;#1048668;#1048579;#1048649;#1048644;#104
8655;#1048655;#1048662;#1048579;#1048662;#1048651;#1048644;#1048661;#1048659;#
#1048655;#1048668;#1048579;#1048664;#1048657;#1048663;#1048652;#1048655;#10485
79;#1048652;#1048663;#1048662;#1048579;#1048656;#1048652;#1048657;#1048652;#1
048656;#1048664;#1048656;#1048579;#1048659;#1048658;#1048652;#1048657;#1048663
;#1048579;#1048644;#1048663;#1048579;#1048654; = 0.07, and

will rise again. Experimental results have confirmed the results of this analysis.]