

BAB 5

KESIMPULAN

Kesimpulan yang diperoleh dari eksperimen Interferometer *Sagnac* pasif di atas *platform* gerak rotasi pada gerak searah putaran jarum jam ini adalah

1. Pada penelitian Interferometer *Sagnac* pasif konfigurasi *triangle* ukuran 12 cm x 12 cm telah dibuktikan secara teoretikal dan eksperimental bahwa kecepatan putaran/ rotasi *platform* yang semakin cepat menghasilkan pola frinji yang lebih rapat.
2. Pola frinji interferensi pada eksperimen ini dideteksi dengan menggunakan kamera 2-D. Maka untuk mengurangi konsumsi waktu komputasi pada penelitian ke depan disarankan untuk menggunakan kamera 1-D (*scanner*).
3. Pendeteksian perubahan kecepatan sudut pola interferensi frinji dilakukan dengan menganalisa perubahan perioda frinji per sekuensial. Analisis data pada tesis ini menggunakan metoda *FFT* secara *IFR* untuk mendeteksi perioda frinji tersebut.
4. Pada Gambar 4.5 terlihat kurva *lock in* yang merupakan karakteristik dari sistem sensor Interferometer *Sagnac* pasif.
5. Pada Gambar 4.7 terlihat kurva beda fasa absolut (φ_a) versus kecepatan sudut rotasi *platform* adalah sinusoidal orde empat. Terbukti bahwa interferensi pada eksperimen menghasilkan beda fasa absolut (φ_a) versus kecepatan sudut rotasi (Ω) *platform*.
6. Pada kondisi operasional maka perlu perbaikan sistem Interferometer *Sagnac* pasif ini yaitu menggunakan konfigurasi prisma yang lebih ringan dengan ukuran *ring resonator* lebih kecil serta sumber *laser* gas He Ne berukuran kecil dan ringan. Rencana ke depan adalah penggunaan sistem *O Ring* dan *wireless* sebagai sistem transmisi data pengganti kabel *USB*.

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