

Non-linear effect and patterns in the scattered beam of close resonance laser in a Rubidium vapor cell

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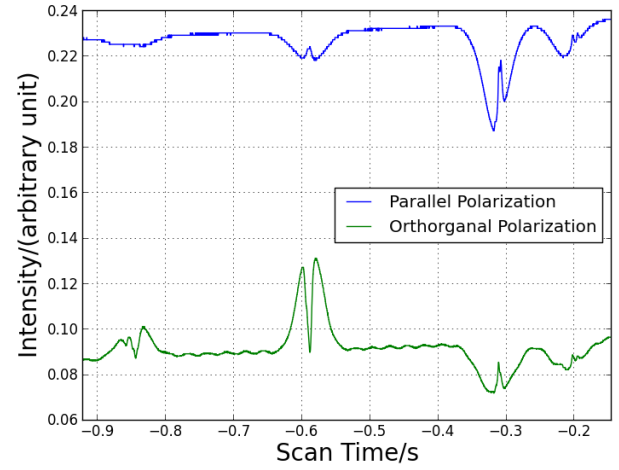


FIG. 2:

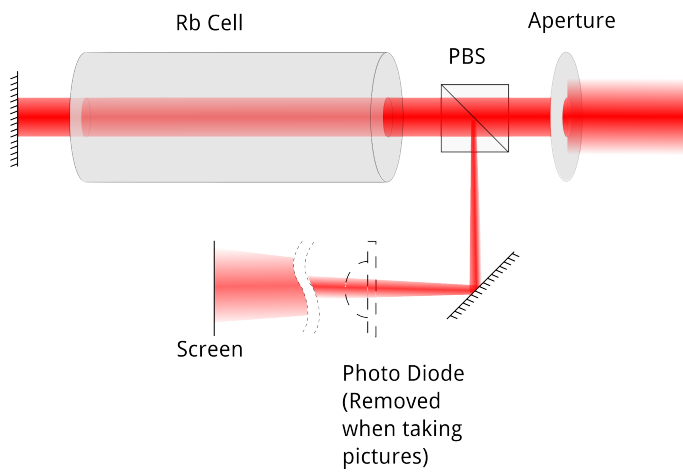


FIG. 1:

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FIG. 3:



FIG. 6:

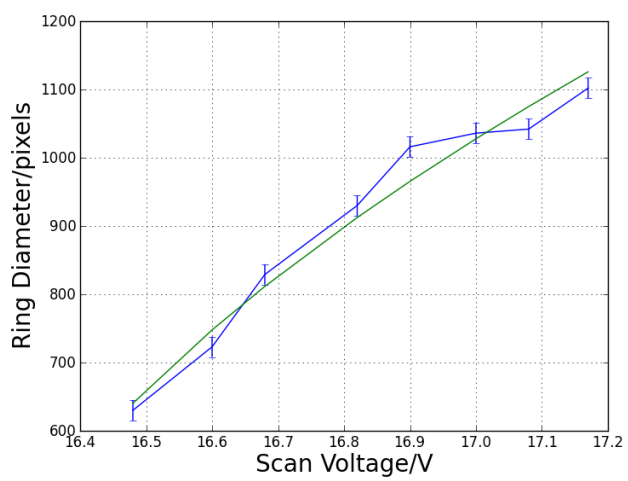


FIG. 4:



FIG. 5:

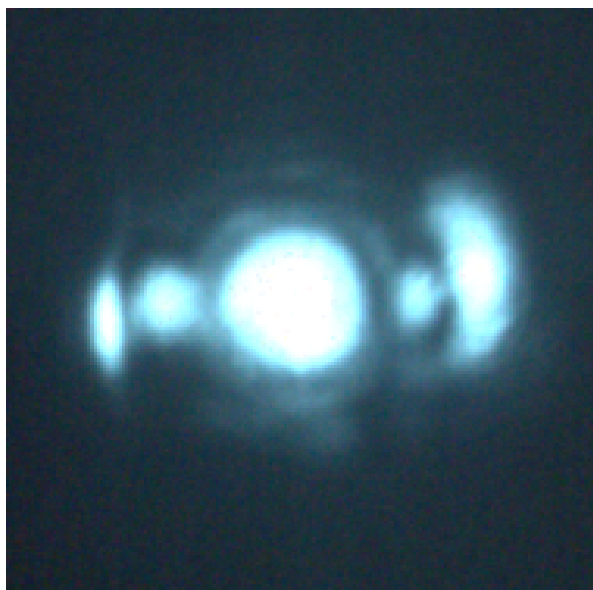


FIG. 7:

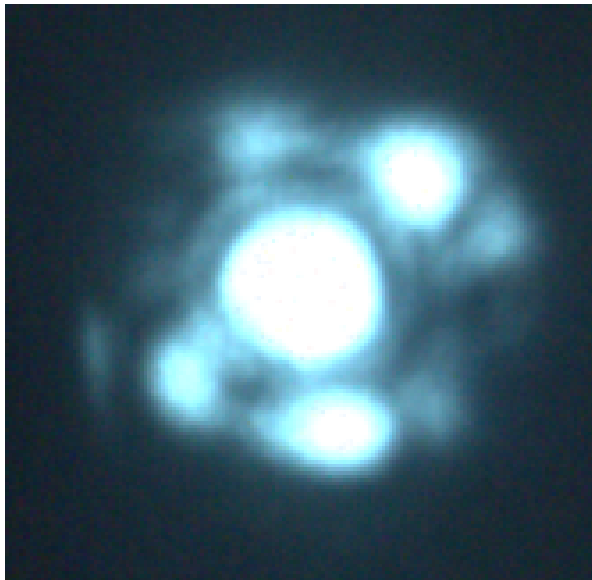


FIG. 8:

Introduction

1. THEORY

- 1.1. Saturated absorption and non-linear effect.
- 1.2. Scattering in a standing wave and interference rings.
- 1.3. Flower like patterns from four wave mixing.

2. APPARATUS

- 2.1. Beam path setup.
- 2.2. Heater design.
- 2.3. Imaging system.

3. MEASUREMENTS AND RESULTS

- 3.1. Generated light in the orthogonal polarization.
- 3.2. Interference rings for red detuned light.
- 3.3. Flower like patterns

4. CONCLUSION