

Holography

Albert-Ludwigs-Universität Freiburg



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Saskia Bondza & Simon Stephan

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Theoretical Background

Procedure and Evaluation

- Michelson Interferometer
- Double Exposure Hologram
- Real Time Hologram
- Fourier Interferometry

Summary and Discussion



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Holography - How does it work?



Blablabla¹

¹S. Unmüßig. "Holographie". Staatsexamensarbeit. Physikalisches Institut, Fakultät für Mathematik und Physik, Universität Freiburg, 1995.



Interference



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Hologram of an object point



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Types of Holography



Reconstruction of a Hologram



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Holographic Interferometry



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Double Exposure Hologram



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Blablabla

Oscillations of an Aluminium Plate



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Blablabla



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Blablabla

Fourier Optics - Huygen's Principle and Fraunhofer Diffraction



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Blablabla



$$(f * g)(t) = \int_{-\infty}^{\infty} f(\tau) \cdot g(t - \tau) d\tau \quad (1)$$

Cross- and Autocorrelation



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Blablabla



Blablabla



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Summary of our Results



Blablabla