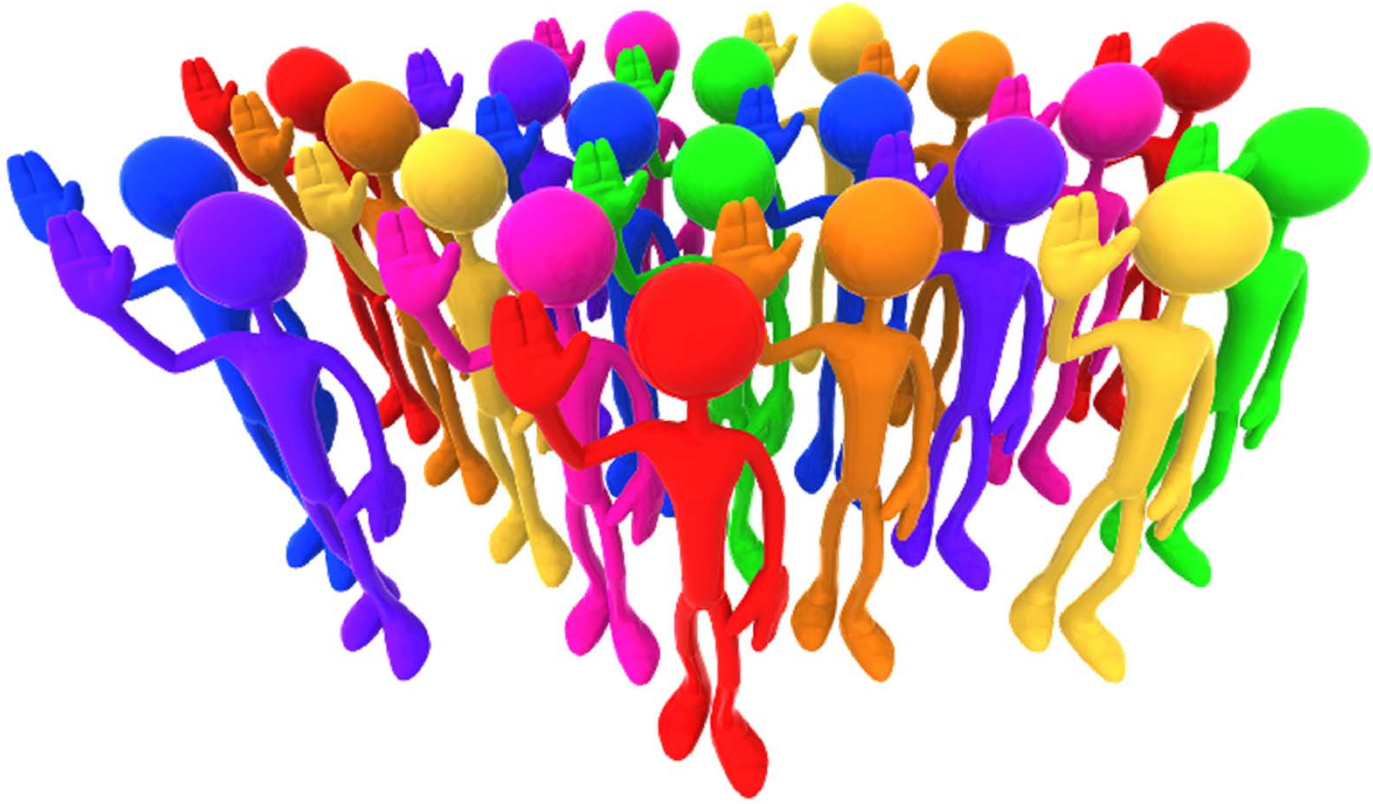
Research Activities of the Color Group

TECHNISCHE UNIVERSITÄT DARMSTADT

Philipp Urban



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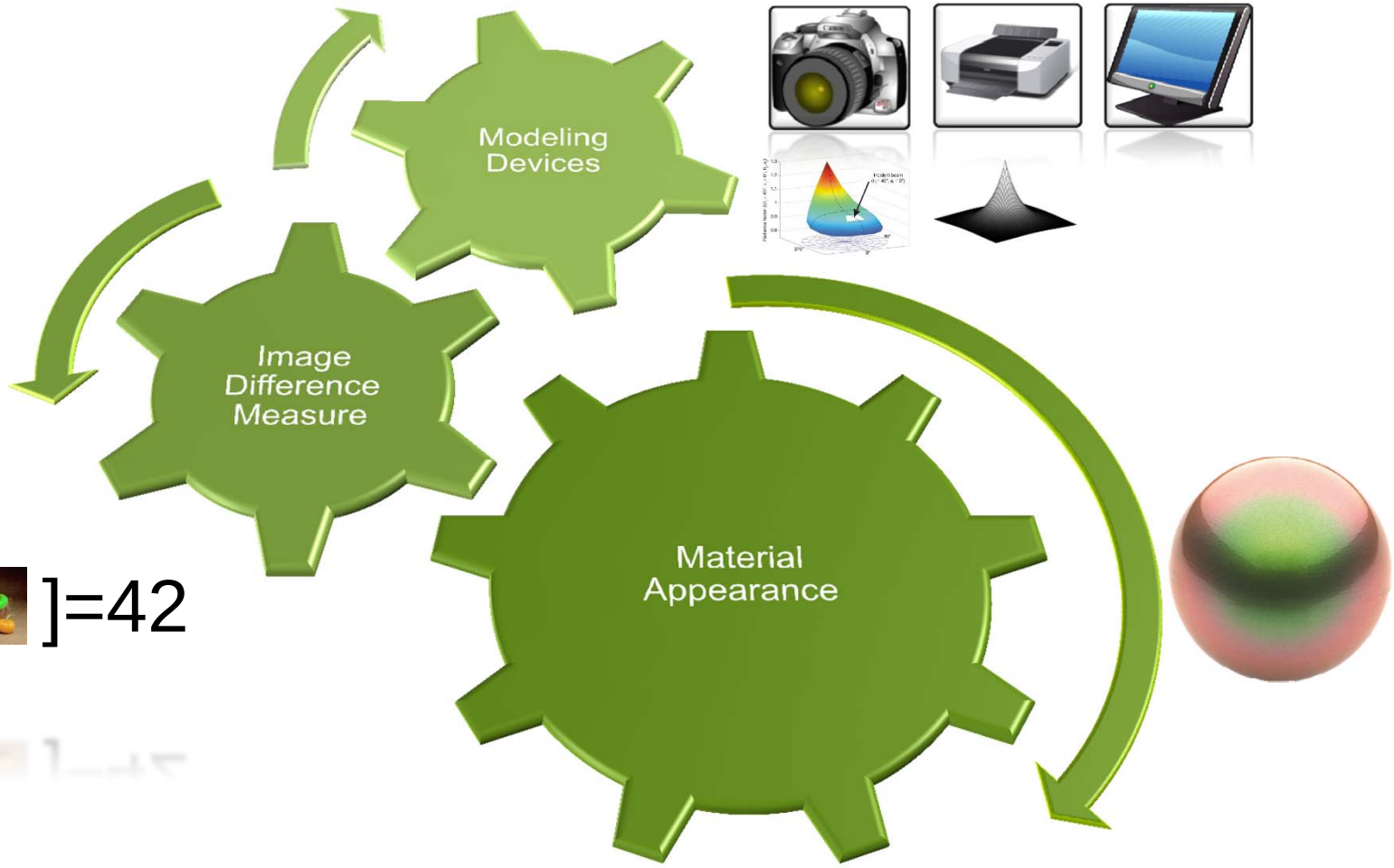
Overview



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Selected Topics

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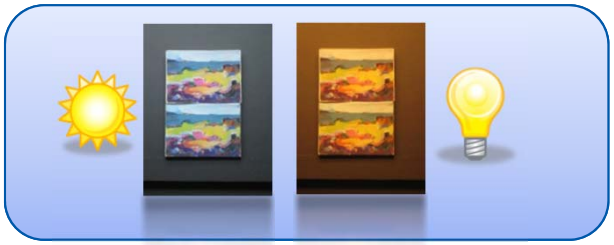


Spectral Reproduction

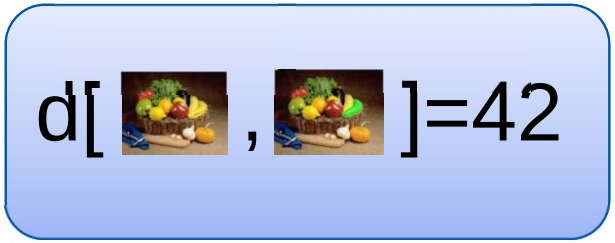
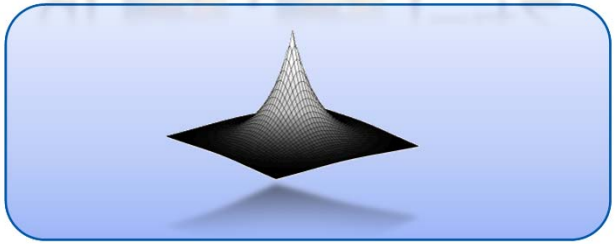
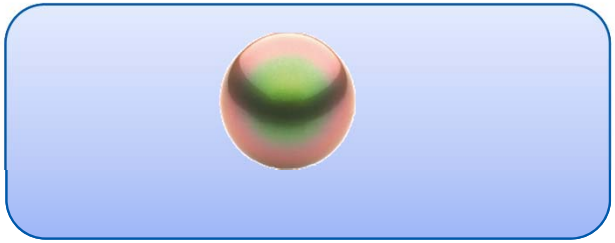


Image Difference Measure



Measuring Sub-Surface Scatter of Light



Material Appearance
(Printed Effect Colors)

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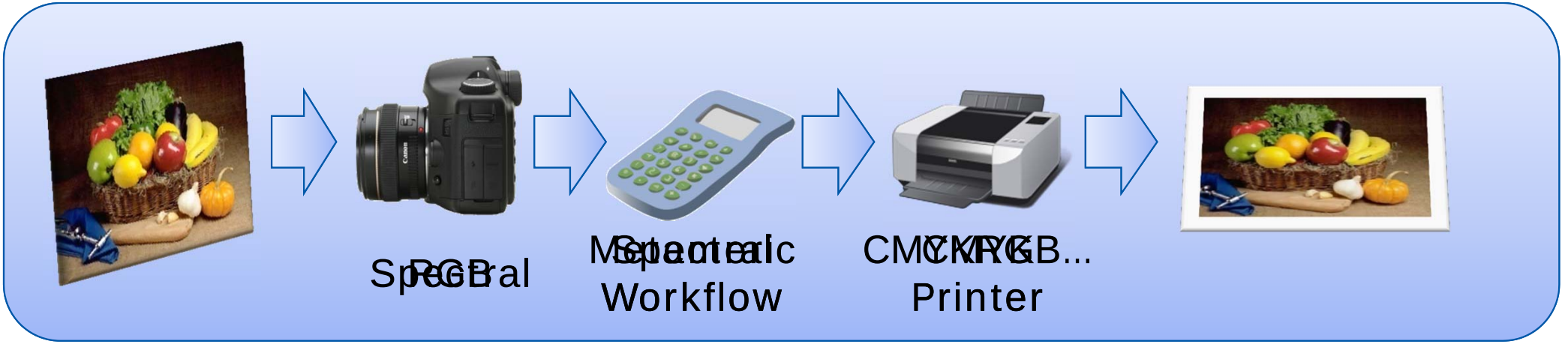
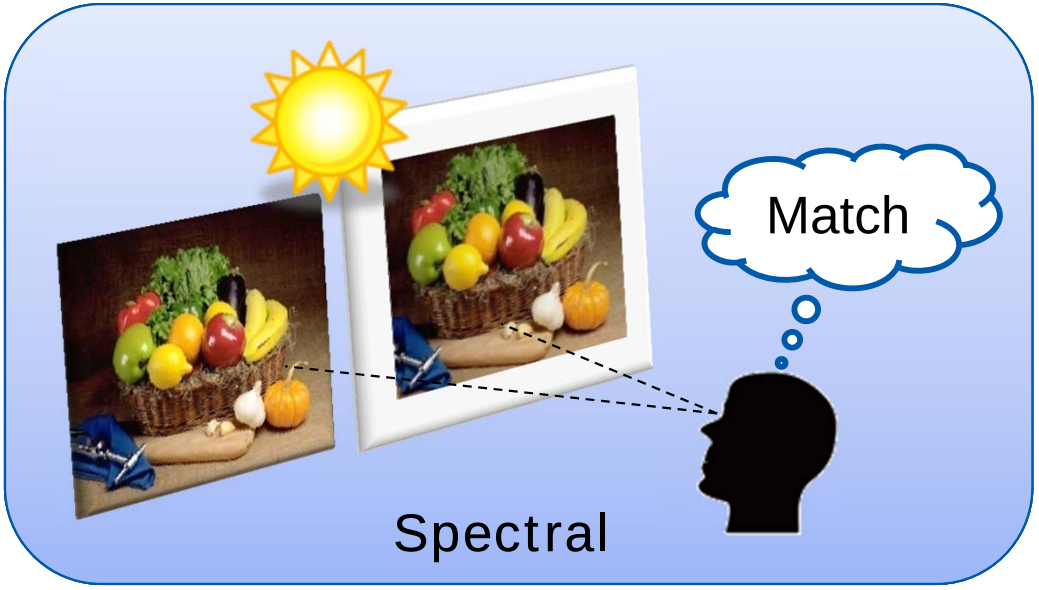
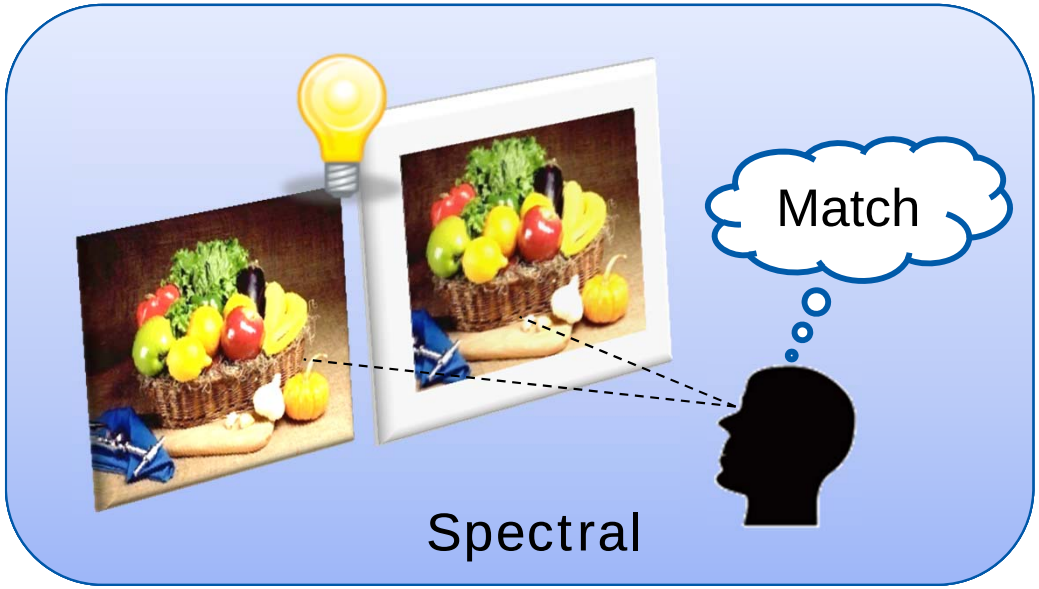
Spectral Reproduction







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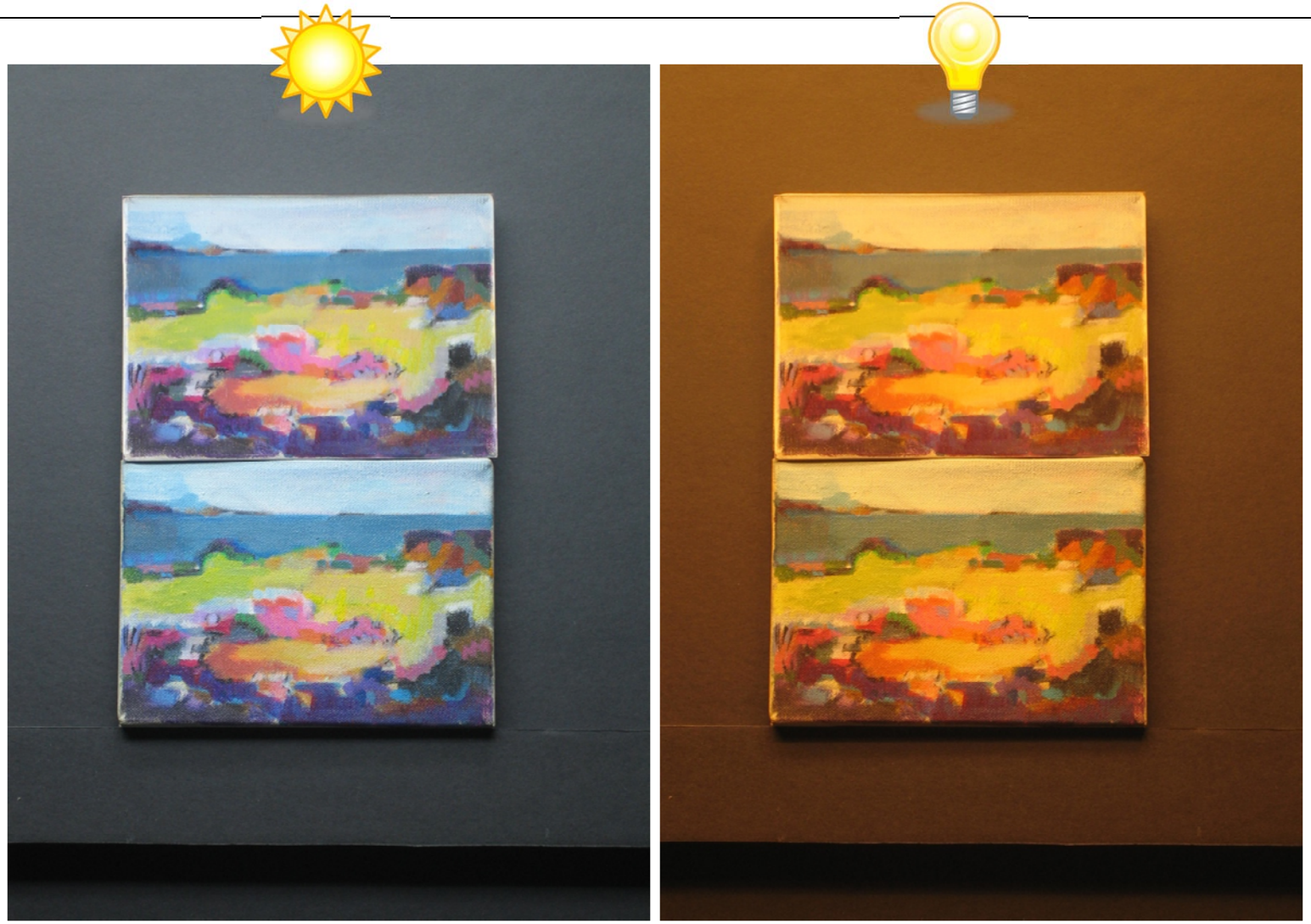

Print

Original

Image Difference Measure

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d [ , ] = 42

Original

Green Banana

d [ , ] = 0

Original

Additive Noise

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Image Difference Measure

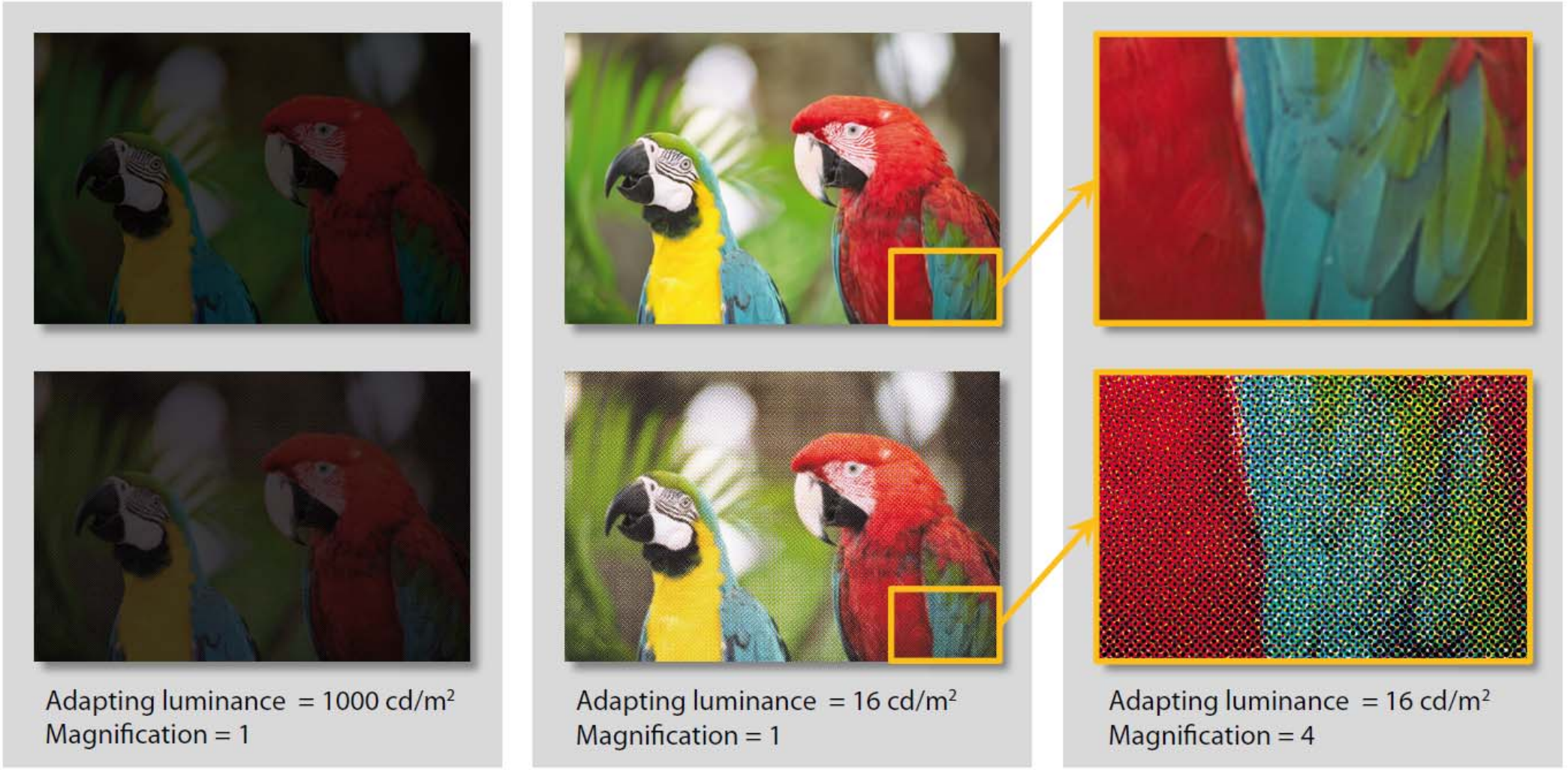
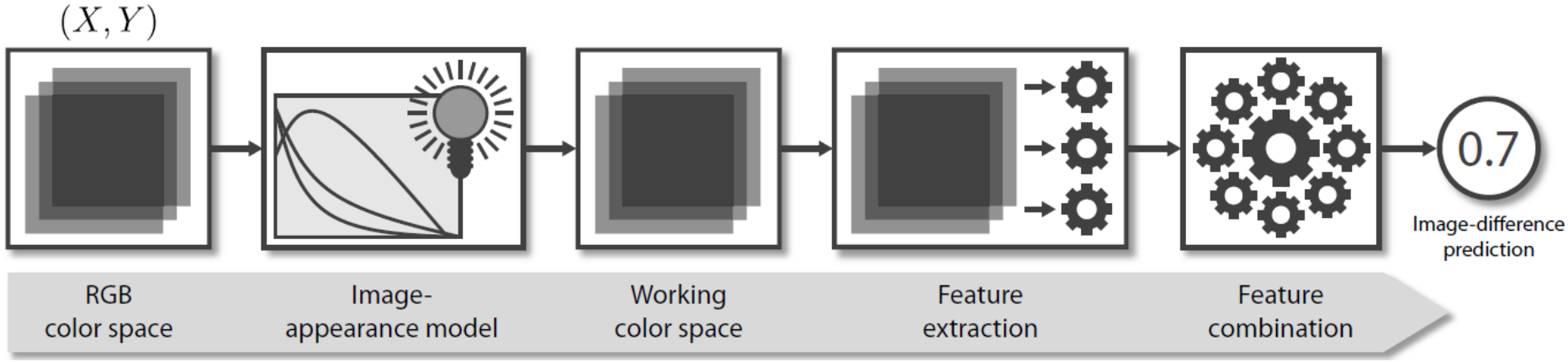
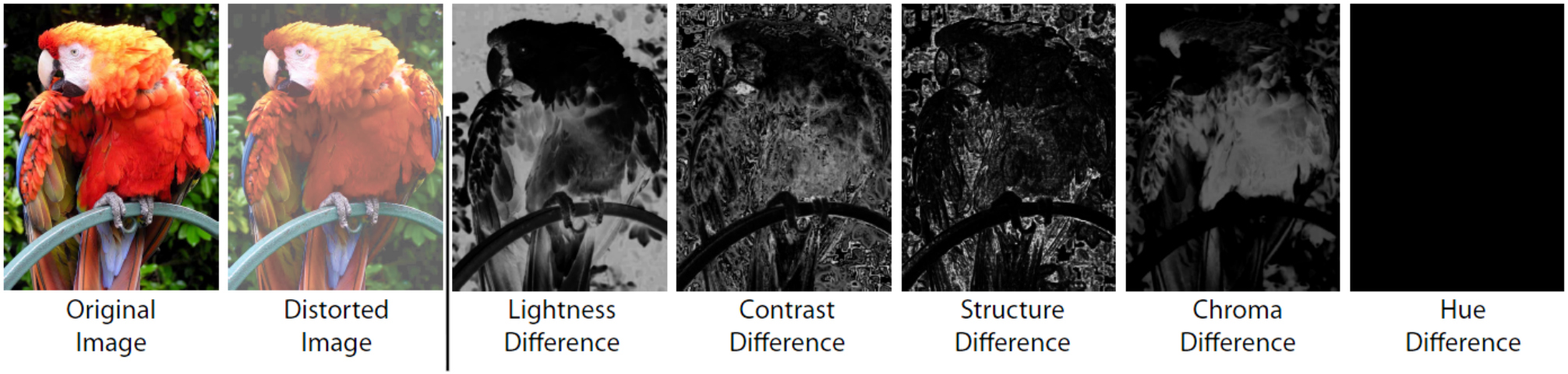


Image Difference Measure





Ingmar Lissner, Jens Preiss, Philipp Urban, Matthias Scheller Lichtenauer and Peter Zolliker,
Image-Difference Prediction: From Grayscale to Color, IEEE Transactions on Image Processing (2012) (Early Posting)

Examples

ICC-Profile

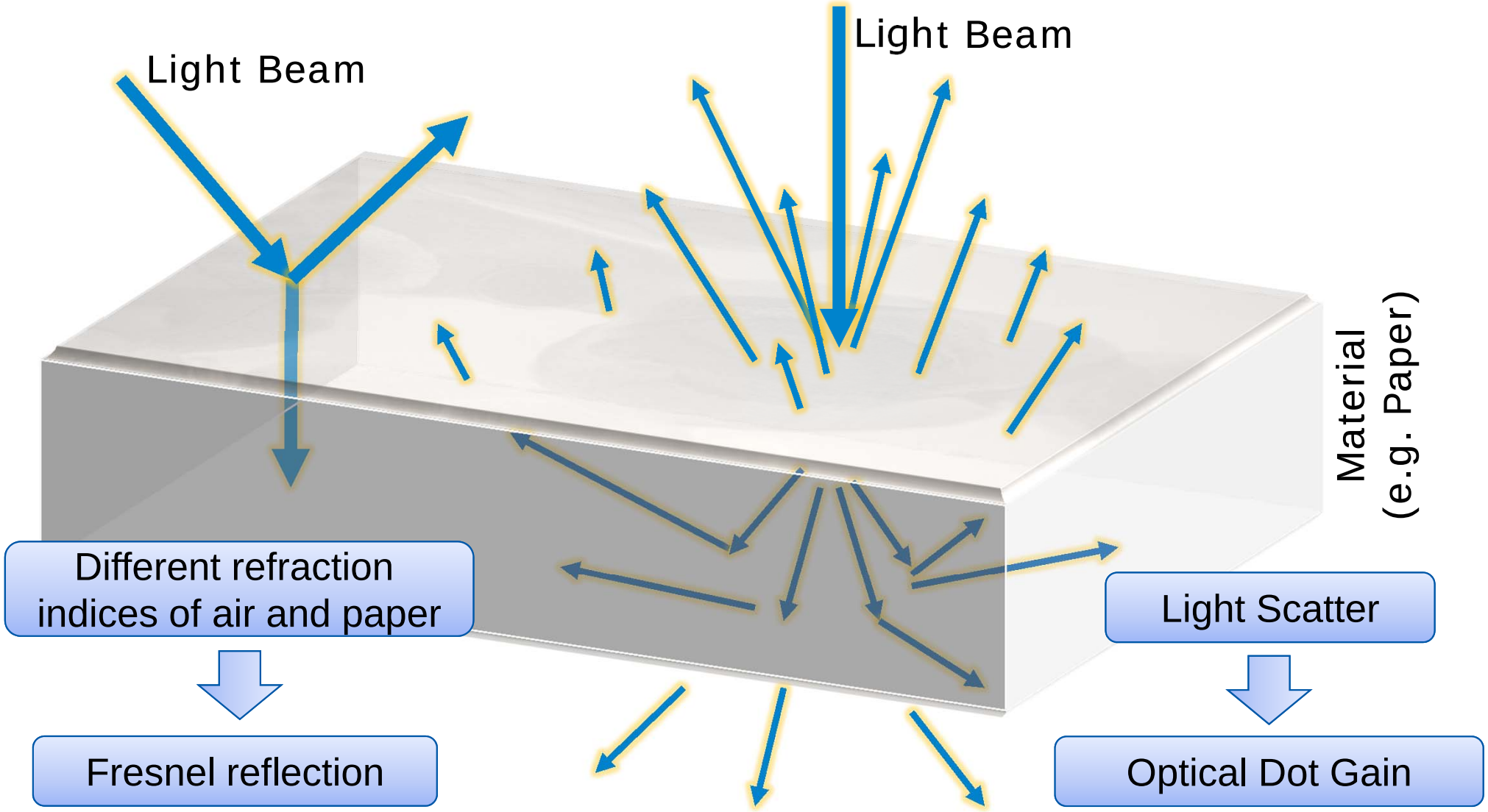
iCID Optimized

Examples

ICC-Profile

iCID Optimized

Measuring Sub-Surface Scatter of Light



Measuring Sub-Surface Scatter of Light

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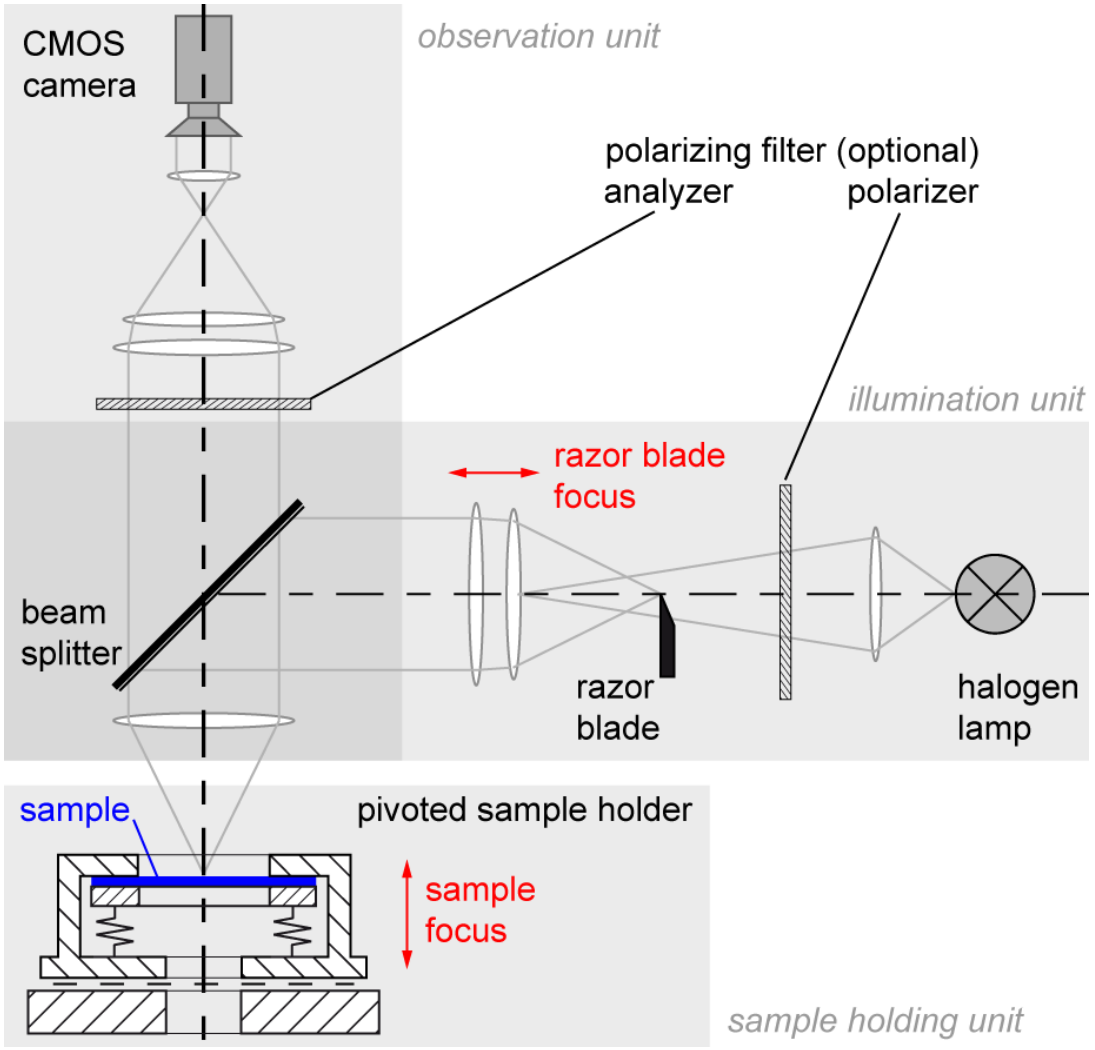

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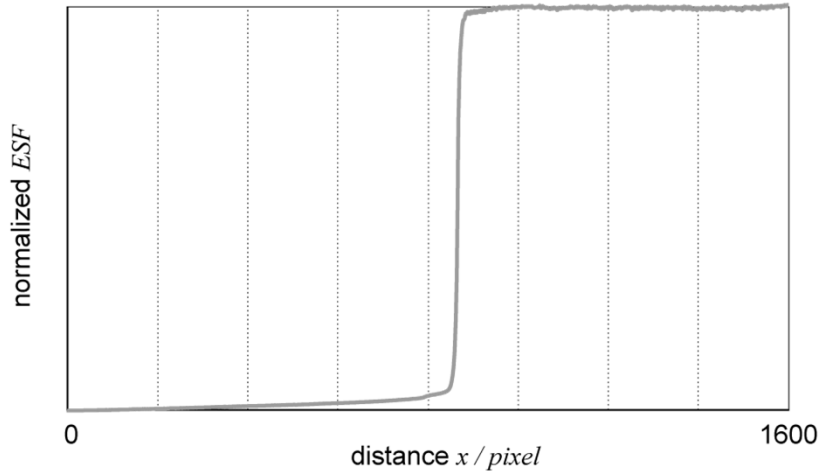
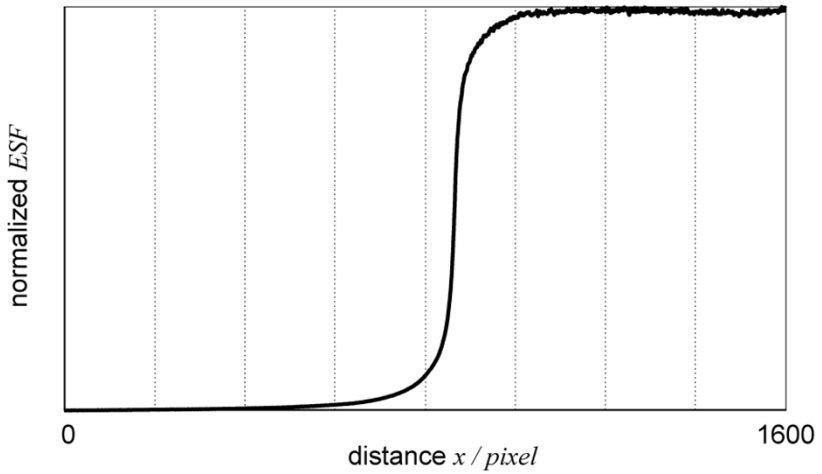
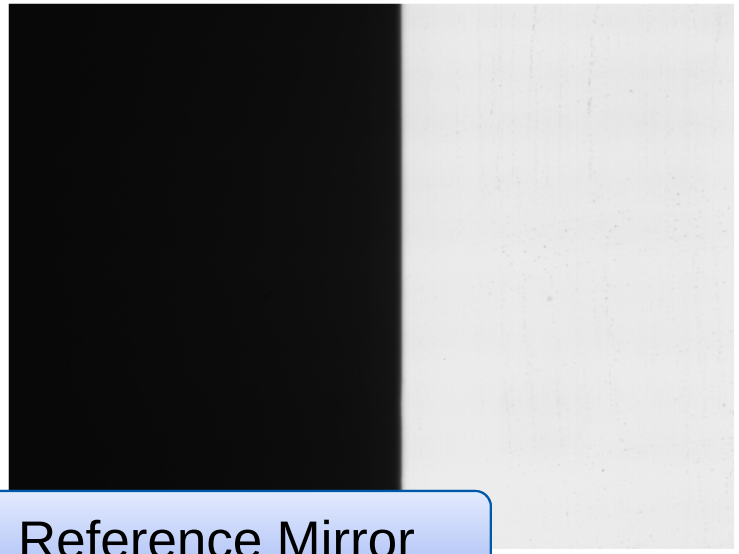
Measuring Sub-Surface Scatter of Light







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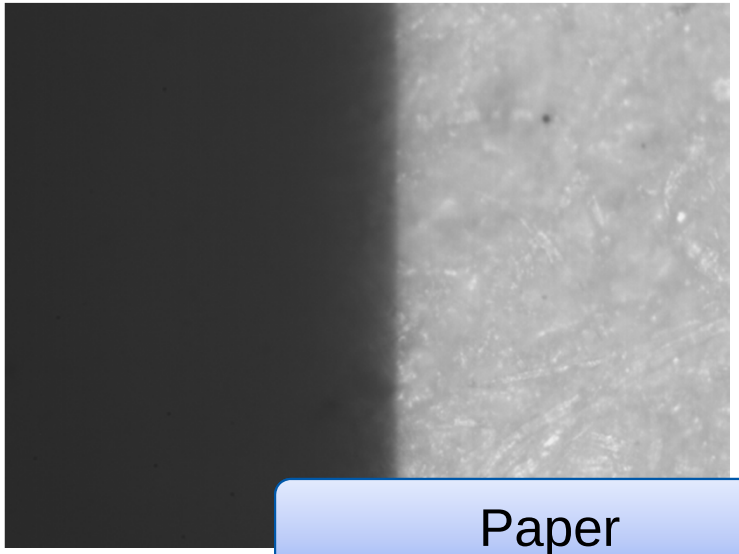

Reference Mirror

Paper

Material Appearance
Printed Effect Colors

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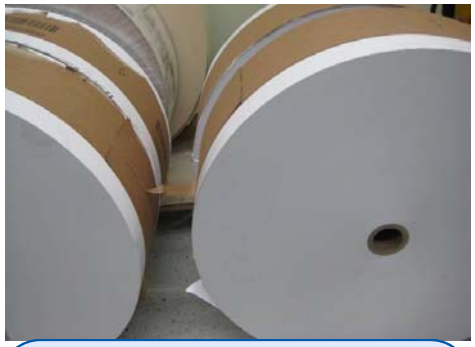
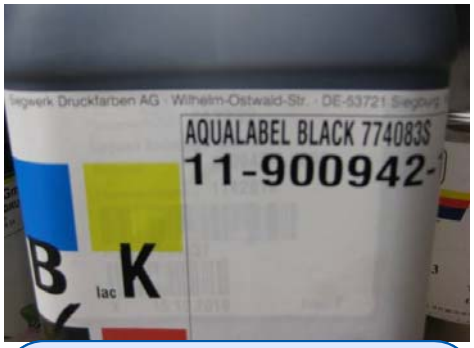
Creating a Representative BRDF Database of Printed Effect Colors

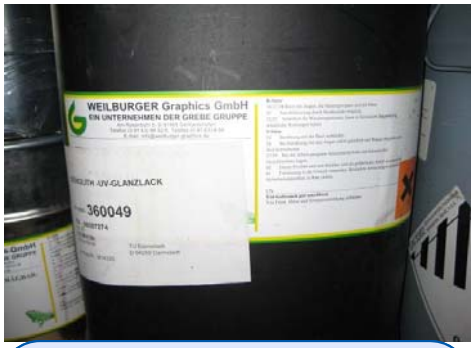


Glossy and Matt Paper (Stora Enso)



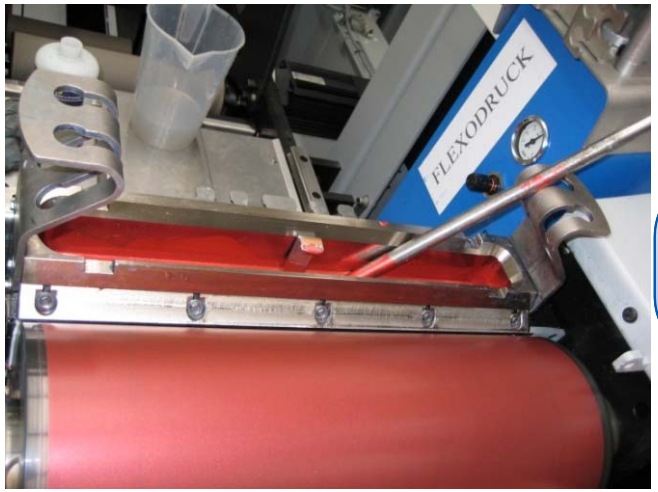
Black Absorption Ink

28 Effect Inks (Merck)



Gloss Varnish

Gallus Printing Press



Flexographic Printing

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Material Appearance
Printed Effect Colors

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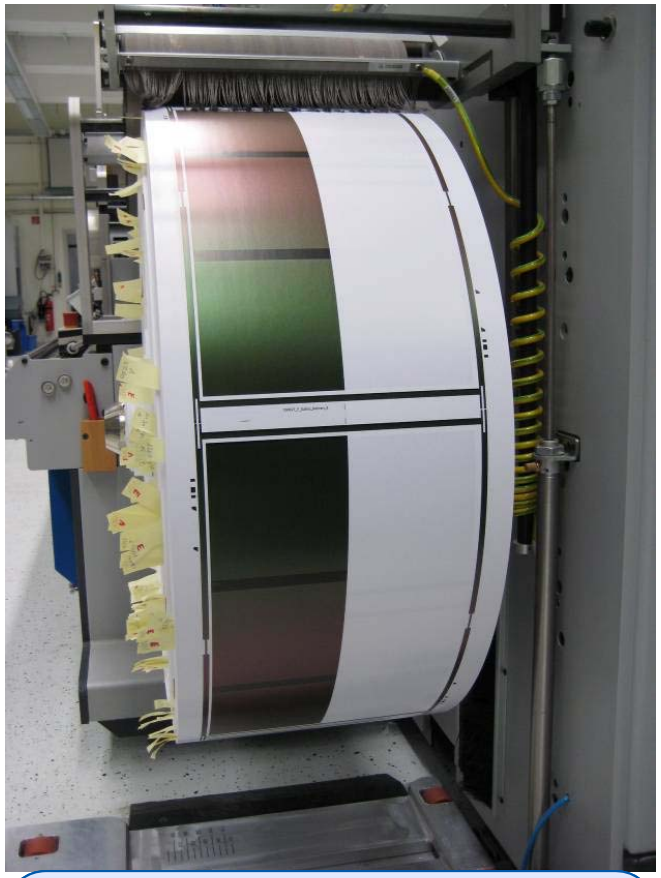
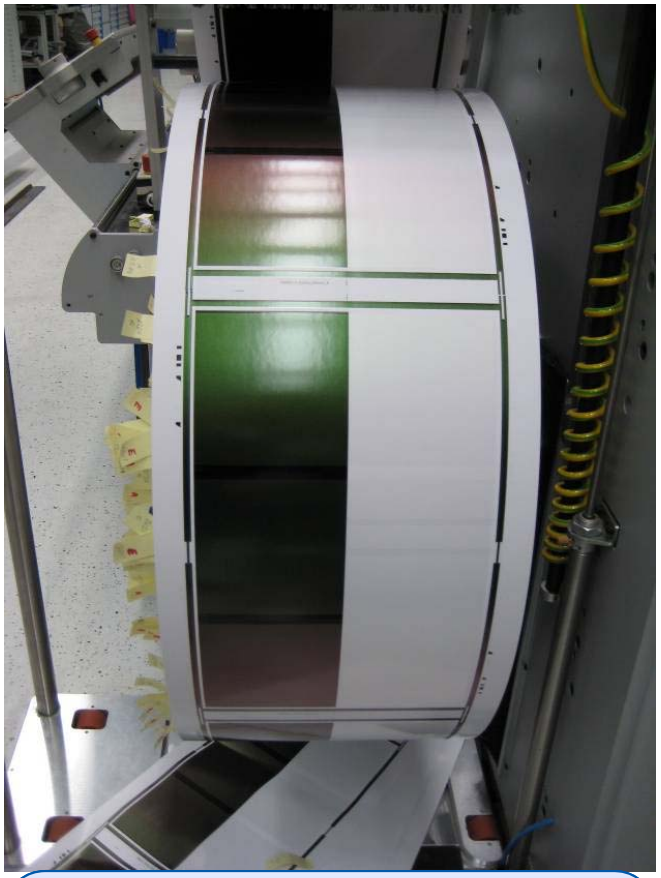
Creating a Representative BRDF Database of Printed Effect Colors

50% Black



28 Effect Inks in
60%, 70%, 80% Tonal Values



50% Gloss Varnish

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Material Appearance
Printed Effect Colors

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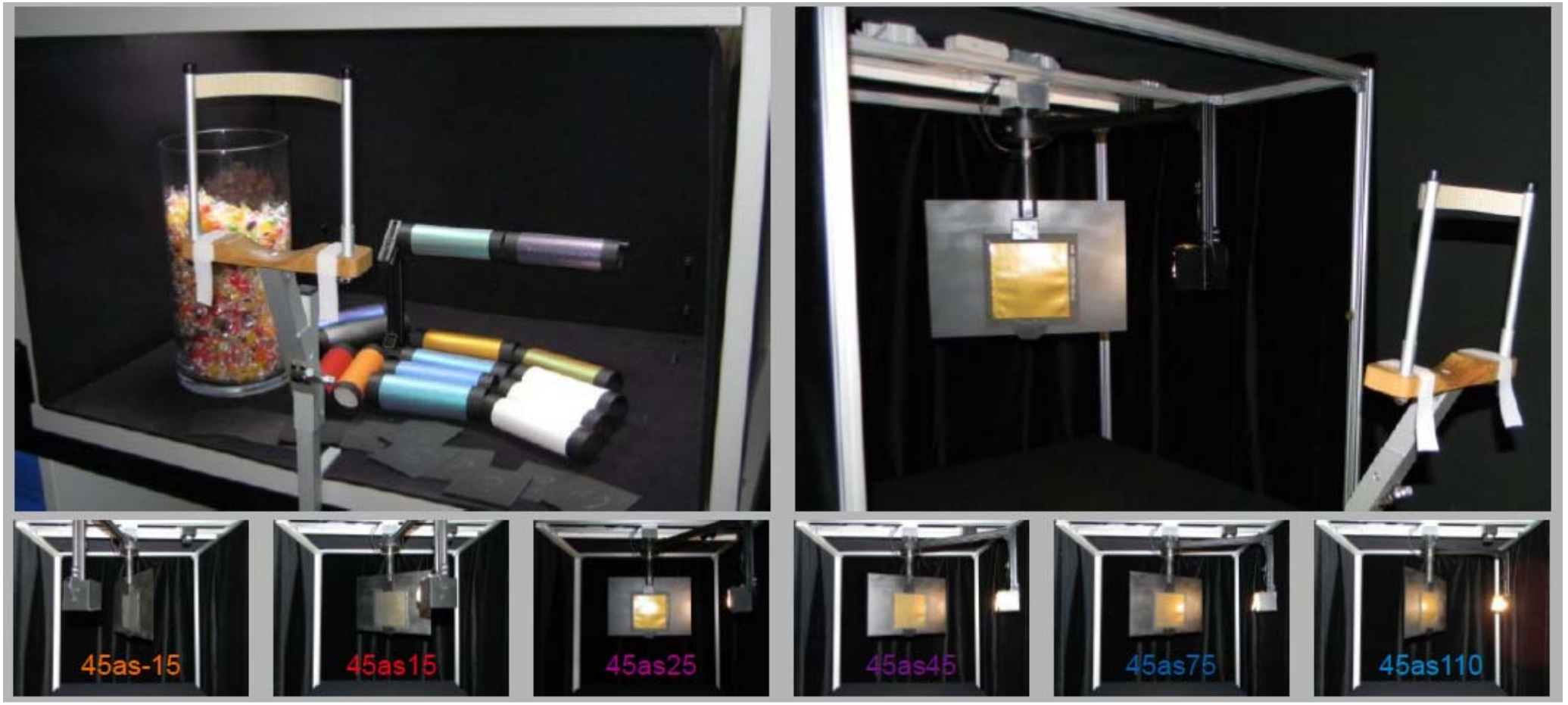

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Thank You…

TECHNISCHE UNIVERSITÄT DARMSTADT

Head

Philipp Urban

Post Doc

Steven Le Moan

Research Assistants / PhD

Jens Preiss

Sepideh Samadzadegan

Christoph Godau

External PhD Candidate

Maximilian Klammer

Color Group
Institute of Printing Science and Technology
Technische Universität Darmstadt
Magdalenenstr. 2, 64289 Darmstadt
Germany

http://www.idd.tu-darmstadt.de/color

Jana Blahova

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