Charles Poynton HDR/ ACES

ACES is important in high-end production, and is becoming increasingly useful in CGI/VFX and DI. The ACES block diagram serves as the theoretical underpinning for CGI/VFX/DI pipelines, and ACES is HDR-capable. So, we'll start with a detailed review of ACES. After approval, at mastering, HDR material needs to be coded in either PQ or HLG code. We'll describe these encodings.

BT.709 is best understood as an acquisition standard. For HD/UHD standard dynamic range, BT.1886 is the important display standard. We'll give details, and explain why "709" is not usually the correct term. HDR in practice comes with wide colour gamut (WCG), often DCI P3 in a BT.2020 "container." We'll give details of the colour transforms – both the colorimetric transforms (which are conceptually simple, but have math) and the gamut mapping transforms (which ideally involve a colorist).

For distribution and consumer display of HDR/WCG, metadata is necessary. We'll describe today's HDR/WCG metadata standards, and outline what is likely to be required for dynamic metadata in the near future.

HDR presents challenges for test signals, instrumentation, and calibration. High (peak) luminance is an issue. Emergent displays have different spectral characteristics than usual for studio reference, potentially leading to metamerism. HDR displays typically have average power ("APL") limitations. Finally, consumer displays may incorporate highly nonlinear signal processing. We'll outline recent developments.

The attendee should be familiar with digital video, HD, and digital cinema. Knowledge of mathematics isn't required; nonetheless, many graphs and several equations will be shown!

Registration: € 300. Detailed handout notes – some of which form portions of the second edition of Mr. Poynton's book – will be provided.

HFF Munich, October 6th, 7th or 8th 2016

To register, send a mail to sft@hff-muc.de

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Charles Poynton