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PTBs contribution to the Regensburg meeting of ISO/IEC/JTC1/SC17WG1 and TF2

2005-06-07 to 2005-06-09

Supply of RM 7811/2, RM 7811-6 and RM 7811-7

The PTB has supported the ISO/IEC standardization of magnetic stripes since 1978 certifying the reference material. Since that time, especially in the last five years, the sales of RM for magnetic stripes has been decreasing drastically. The stock of loco reference cards has shrunk down. At the latest in 2008 new cards have to be manufactured. Tests using old SRM 3200 tape showed up serious problems with the stabilty of this old tape. In result he old tapes cannot be used to manufacture new RM. New tape would have to be selected or developed. Since the last two years 20 sets of all RM cards (10 loco) have been distributed per year, only (less than 10.000 € a year). This situation does not justify the costs for developing a new batch of tape and cards. Moreover, the PTB will lose the trained personnel not later than 2008. In result, the PTB has to stop the active support for magnetic stripes in 2008 after more than 30 years. To stabilize the situation, RM could be sold from stock as long as the material is available. This would be no problem for hico magnetic stripes, since there is a stock of RM 7811-7 suitable to be used as RM 7811-6, also. Again, for RM 7811/2 the situation is more critical for the reason given above.

In this situation it does not seem very likely to develop new standards like ISO/IEC 7811-8 which need RM 7811/2 for installation.

Opacity

Measurements under the conditions given by Kevin Tall have been accomplished. The results are shown in figure 1. The results are very promissing. The differences between PTB and Eclipse are in the range of 1 % of the transmission which is sufficient for the application. The method seems to be much better than the spectrophotometer. Infrared LEDs for 850 nm could be bought at Roithner electronics in Vienna, finally. Measurements show that it is sufficient to specify the current through the LED to be higher than 75 % of I_{max} to achieve comparable results.

There are differences in the results using the old and the new method for some cards reflecting the different scattering of IR-light inside the card bodies. The new method will be much more precise because it reflects the real world better than the spectrophotometer. On the other hand, it is the only method applicyable for cards with windows, because it is not possible to position the half sphere of the spectrophotometer on such a card.

The only critical point is the supply with reference material. It would be very helpful, if an institution like Eclipse could offer cheaper RM (i.e., tinted screen filters) than the national metrologic intstitutes like NIST or PTB.

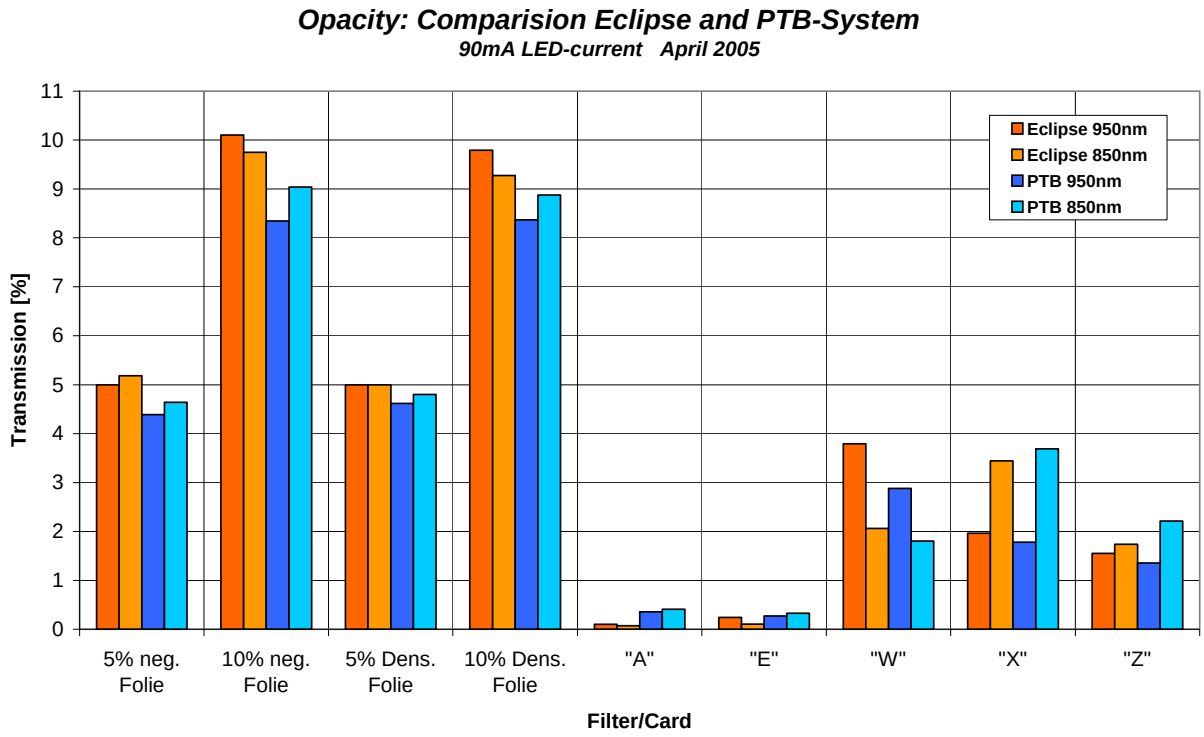

Figure 1: Comparison of the opacity measurement results between Eclipse and PTB.