Systematik zur lichttechnischen Gestaltung von aktiven Scheinwerfern,
Systematic of the lighting design of active headlamps,
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Abstract in englischer Sprache:

Currently are tiredness and bad visibility at night driving situations the main causes for 50% of mortal accidents at an average of only 25% driven kilometers during night time driving situations.
Active headlamps increase the safety and comfort significantly in comparison to AFS headlamps. This large safety increase is done by new light functions, e.g. marking light, traffic- and road situation dependent and driver dependent light distributions.
research was done on five different concepts for active headlamps:
The digital micromirror device, dynamic bending DMD headlamp, the scanning headlamp were investigated in the dynamic surroundings of a headlamp enviroment.
The liquid crystal on silicon, LCoS headlamp and the flex prism are static prototypes.
The highly flexible, luminous flux, energy efficient, redistributing analog micromirror device, AMD headlamp demonstrator shows the lighting technology of the headlamp future.
The active headlamp can be used as a rapid prototyping light distribution demonstrator to validate the properties of new light distributions under static and dynamic conditions. They offer the possibility to modify the light distributions via software. The changes within the light distribution, done by software, could be the beginning of a “revolution” in the headlamp lighting technology.