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Abstract to poster:

The illusion of absence: Perceiving occluded space as empty

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Most objects in our visual environment are, to some extent, occluded, yet we nevertheless perceive them as complete. Even if objects become occluded entirely, we often do not experience them as absent but continue to represent them. However, some occluding events evoke the compelling impression that the occluded space is empty, i.e., an illusion of absence occurs. This illusion of absence provides a basis for magic illusions where things seem to appear out of nowhere or vanish into thin air, but could also contribute to road accidents (e.g. when the car's A-pillar occludes another vehicle or a pedestrian). This is a newly described phenomenon that can be demonstrated by different visual illusions, such as the floating pen illusion. Here, we will provide various examples of the illusion of absence and highlight its relevance for practical applications to prevent road accidents where another road user unexpectedly appears out of nowhere. In addition, we will provide preliminary data on an experiment investigating stimulus factors contributing to the illusion of absence. In some situations, revealing an object from behind an occluder might be perfectly in line with participants' expectations, while in other situations, it might lead to mere surprise, which would indicate the occurrence of the illusion of absence.