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Autore	Schönbein Miriam
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Sommario/riassunto	Environment perception with cameras is an important requirement for many applications for autonomous vehicles and robots. This work presents a stereoscopic omnidirectional camera system for autonomous vehicles which resolves the problem of a limited field of view and provides a 360° panoramic view of the environment. We present a new projection model for these cameras and show that the camera setup overcomes major drawbacks of traditional perspective cameras in many applications.