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Sommario/riassunto	This thesis describes the detection and reconstruction of traffic accidents with event data recorders. The underlying idea is to describe the vehicle motion and dynamics up to the stability limit by means of linear and non-linear vehicle models. These models are used to categorize the driving behavior and to freeze the recorded data in a memory if an accident occurs. Based on these data, among others the vehicle trajectory is reconstructed with fuzzy data fusion. The side slip angle which is a crucial quantity describing the vehicle stability is estimated with non-linear state observers and Kalman-Filters. The methodologies presented may lead from accident reconstruction considered here to accident avoidance.