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Dmitry V. Zenkov* (dvzenkov@ncsu.edu). *Moving Frames in Mechanics.*

Moving frames in mechanics have been utilized for more than 250 years. The key steps of this development were carried out by Euler, Poincaré, Hamel, and recently Marsden in relation to the dynamics and stability of rigid body, fluid, and interconnected mechanical systems. The talk will overview some of these ideas and discuss recent development of this formalism for infinite-dimensional mechanical systems and field theories. (Received January 17, 2017)