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**Cell crawling on filamentous tracks** JORGE LOPEZ, JENNIFER SCHWARZ, Syracuse University, MOUMITA DAS, Rochester Institute of Technology — Recent experiments suggest that the migration of some cells in three dimensions has strong resemblance to one-dimensional migration. Motivated by this observation, we simulate a one-dimensional model cell made of beads and springs that moves on a tense semiflexible filamentous track. Physical parameters, such as the spring constants and friction coefficients, are calculated using effective theories. We investigate the mechanical feedback between the model cell and this track, as mediated by the active myosin-driven contractility and the catch/slip bond behavior of the focal adhesions, as the model cell crawls. We then compare our calculations of cell speed and the amount of deformation in the track with experiments.

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