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**Coupling the atomistic and continuum simulation** GUOWU REN,  
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hai 200433, China — A hybrid multiscale method coupled atomistic and continuum  
model is present. In the continuum region, an atomic-scale finite element method  
(AFEM) is proposed and exhibits a perfect coupling with molecular dynamics (MD)  
method used for the atomistic region. In the framework of hybrid method, utilizing  
the concept of filter, we also design a new interfacial condition which damps out the  
spurious reflection of high-frequency phonons at the atomistic/continuum interface  
without much influence on the low-frequency ones. A series of simulation results  
show the advantage of our schemes.

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