1126-13-382   **D. D. Anderson**, **J. R. Juett*** (`jason.juett@txstate.edu`) and **C. P. Mooney**. *Module cancellation properties.* Preliminary report.

Over the years, several different cancellation properties of modules have been studied. For example, a module A over a commutative ring R is (resp., is *restricted*, is *weak*, is *half*, is *half weak*) (*quasi-*)*cancellation* if $IA = JA \Rightarrow I = J$ (resp., $IA = JA \neq 0 \Rightarrow I = J$, $IA = JA \Rightarrow I + (0 : A) = J + (0 : A)$, $A = IA \Rightarrow I = R$, $A = IA \Rightarrow I + (0 : A) = R$) for all (finitely generated) ideals. A module is (*half*) *join principal* if every homomorphic image is (half) weak cancellation. A particularly interesting question is which commutative rings have every nonzero (finitely generated) ideal (resp., module) satisfying some cancellation property. This presentation will review some basic facts and classic theorems on these topics, and then present several new results. (Received January 17, 2017)

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