1145-O1-177   **Chris Oehrlein*** (`cdoehrlein@occc.edu`). *Hamiltonian, Exact, or Conservative? YES!*
Most traditional ODE resources have a section on exact first-order equations. Many newer ODE resources with a more qualitative emphasis include the concept of Hamiltonian systems (sometimes to the exclusion of the exact concept). Then in most multivariable calculus and second-semester physics courses, students are presented concepts and computational skills about conservative vector fields and potential functions. Do our students recognize the similarities and differences among these three perspectives? How are we as instructors guiding them in seeing and using the three in different situations and what observations about one perspective can tell them about the others? Well, they don't, and we aren't – so what should we do about it in our ODE courses? (Received August 15, 2018)