1073-11-20 **David M Brown*** (david.m.brown.jr@gmail.com). *Explicit modular approaches to generalized Fermat equations.*

Let $a, b, c \geq 2$ be integers satisfying $1/a + 1/b + 1/c > 1$. Darmon and Granville proved that the generalized Fermat equation $x^a + y^b = z^c$ has only finitely many coprime integer solutions; conjecturally something stronger is true: for $a, b, c \geq 3$ there are no non-trivial solutions and for $(a, b, c) = (2, 3, n)$ with $n \geq 10$ the only solutions are the trivial solutions and $(\pm 3, -2, 1)$ (or $(\pm 3, -2, \pm 1)$ when n is even). I'll explain how the modular method used to prove Fermat's last theorem adapts to solve generalized Fermat equations and use it to solve the equation $x^2 + y^3 = z^{10}$. (Received ,)