Abstract of paper [1].

Let $1 < k < 33/29$. We prove that if λ_1, λ_2 and λ_3 are non-zero real numbers, not all of the same sign and such that λ_1/λ_2 is irrational, and γ is any real number, then for any $\varepsilon > 0$ the inequality $\left|\lambda_1 p_1 + \lambda_2 p_2^2 + \lambda_3 p_3^k - \gamma\right| \leq \left(\max_j p_j\right)^{-(33-29k)/(72k)+\varepsilon}$ has infinitely many solutions in prime variables p_1, p_2, p_3.

References

[1] A. Languasco and A. Zaccagnini. On a ternary Diophantine problem with mixed powers of primes. *Acta Arithmetica*, 159:345–362, 2013.