We derived from Baker’s explicit abc-conjecture that $a+b=c$, where $a$, $b$ and $c$ are relatively prime positive integers, implies that $c < N^{1.72}$ for $N \geq 1$ and $c < 32N^{1.6}$ for $N \geq 1$. This sharpens an estimate of Laishram and Shorey. We also show that it implies $c < \frac{2}{5}N^{1+G(N)}$ for $N \geq 3$, and $c < \frac{2}{5}N^{1+G_1(N)}$ for $N \geq 297856$, where $G(N)$ and $G_1(N)$ are explicitly given positive valued decreasing functions of $N$ tending to zero as $N$ tends to infinity. Finally, we give applications of our estimates on triples of consecutive powerful integers and generalized Fermat equation.

Address:
Kwok Chi Chim
Institute of Analysis and Number Theory
Graz University of Technology
Kopernikusgasse 24/II
A-8010 Graz
Austria

Address:
Tarlok Nath Shorey
National Institute of Advanced Studies
Bangalore 560012
India

Address:
Sneh Bala Sinha
Indian Institute of Sciences
Bangalore 560012
India