It is well known that in pairing-based cryptography we mainly use two groups G_1 and G_2 without an efficiently computable isomorphism between them (so-called type 3 pairings). Do you know protocols in which one party simultaneously sends to another party points P_1 \in G_1 and P_2 \in G_2 ? I am also interested in the situation when three points of only one group G_1 (or G_2) are transmitted.

Maybe for these cases I know a batch compression method such that its decompression phase is much faster than finding y -coordinates from given x -coordinates. I want to understand, is my result useful or not in practice ?

Thanks in advance for any comments.