

# Boğaziçi MATH GRAD SEMINAR

## Large Zsigmondy Primes

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### Abstract:

If  $a$ ,  $b$  and  $m$  are integers greater than 1 also  $a$  and  $b$  are relatively prime then a large Zsigmondy prime is a prime  $p$  such that  $p \mid a^m - b^m$  but  $p \nmid a^i - b^i$  for  $1 \leq i \leq m-1$  and either  $p^2 \mid a^m - b^m$  or  $p > m+1$ . The main result of this paper lists all the triples  $(a, b, m)$  for which no large Zsigmondy prime exists.

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