Emergent Research:
The PIMS Postdoctoral Fellow Seminar

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Small Prime kth Power Residues Modulo p

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ABSTRACT:
Let p be a prime number. For each positive integer $k\geq 2$, it is widely believed that the smallest prime that is a kth power residue modulo p should be $O(p^{\epsilon})$, for any $\epsilon>0$. Elliott proved that such a prime is at most $p^{\frac{k-1}{4}+\epsilon}$, for each $\epsilon>0$. In this talk, we discuss the number of prime kth power residues modulo p in the interval $[1,p^{\frac{k-1}{4}+\epsilon}]$ for $\epsilon>0$.

ABOUT PIMS PDF SEMINARS:
PIMS ongoing lecture series featuring our Postdoctoral Fellows every three weeks. You will have the opportunity to connect with emerging research in the mathematical sciences from a PIMS Postdoctoral Fellow. PIMS PDFs are amongst the top young researchers in Canada, and this is an excellent opportunity to learn about them, and their work.

SPEAKER BIO:
Kübra Benli received her B.S and M.S. degrees at Bogazici University in Istanbul, her M.S. supervisor was Prof. Cem Yalcin Yildirim. She then received her Ph.D. at the University of Georgia under the supervision of Prof. Paul Pollack in 2020. Since May 2021, she has been a postdoctoral fellow at the Institute Elie Cartan de Lorraine in Nancy, France working under the project ARITHRAND. She will begin her PIMS postdoctoral fellow at the University of Lethbridge later in 2022. Her research is on analytic/elementary number theory, with recent work focusing on counting primes in certain settings. She has also been working on some combinatorial problems. Her master thesis was published as a joint work and she has four publications, three of which are single authored as a result of her Ph.D. research.

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