

SCHOLAR  
UNE CÉLÉBRATION SCIENTIFIQUE SOULIGNANT LES LIGNES OUVERTES DE LA RECHERCHE MATHÉMATIQUE EN  
L'HONNEUR DE L'HÉRITAGE MATHÉMATIQUE DU P<sup>R</sup> M. RAM MURTY À L'OCCASION DE SON 60<sup>E</sup> ANNIVERSAIRE  
15 AU 17 OCTOBRE 2013

SCHOLAR  
A SCIENTIFIC CELEBRATION HIGHLIGHTING OPEN LINES OF ARITHMETIC RESEARCH IN  
HONOUR OF PROFESSOR M. RAM MURTY'S MATHEMATICAL LEGACY ON HIS 60TH BIRTHDAY  
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# Euler-Kronecker constants and Kummer's conjecture

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For any number field  $K$ , Ihara has defined the Euler-Kronecker constant and studied some of its properties. In particular, he conjectured some estimates for this constant. In the case  $K$  is a cyclotomic field, this conjecture may need to be modified. However, we will show that under some plausible hypotheses, the estimates do hold infinitely often. The methods also allow us to say something about Kummer's conjecture on the size of the first factor of the class number.

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