

第05回

- 講演者： **Hatice Boylan** 氏 (Max Planck Institute for Mathematics)
 - 題目□The still mysterious Hecke-Gauss sums
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Erich Hecke in his book “Lectures on the Theory of Algebraic Numbers” introduced Hecke-Gauss sums. These are generalizations of usual Gauss sums to arbitrary number fields. He introduced these sums to prove a quadratic reciprocity formula for number fields. It is interesting to note that explicit formulas for these sums are still not known for arbitrary number fields. However, thanks to a recent result an explicit formula for quadratic number fields is now known. In this talk we shall describe and discuss this recent result. Moreover, we shall give a quick and elementary proof for the Hecke's reciprocity for number fields with class number one. We shall also state the quadratic reciprocity for quadratic number fields (which will be more general than what Hecke proved). Furthermore, we shall also discuss the appearance of these sums in the theory of Weil representations, namely as the Weil indices of the Weil representations associated to finite quadratic modules over number fields.



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