

**Oral presentation: 242**

## **Certain sums of Mordell-Tornheim zeta values**

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The multiple zeta values are real numbers studied by many people in different fields. The sum formulas are considered as one of the most famous relations among multiple zeta values. In our research, we study a slightly different type of sums known as Mordell-Tornheim zeta values. Mordell-Tornheim zeta values can be expressed as a rational linear combination of multiple zeta values. In our research, we prove new sum formulas for Mordell-Tornheim zeta values in the case of depth 2 and 3, expressing the sums as single multiples of Riemann zeta values. Also, we obtain weighted sum formulas for double Mordell-Tornheim zeta values. Moreover, we present a sum formula for the Mordell-Tornheim series of even arguments.

**Keywords:** Mordell-Tornheim zeta values, multiple zeta values, Riemann zeta values, sum formulas