Stirling numbers with level 2 and poly-Bernoulli numbers with level 2

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Abstract. In this paper, we introduce poly-Bernoulli numbers with level 2, related to the Stirling numbers of the second kind with level 2, and study several properties of poly-Bernoulli numbers with level 2 from their expressions, relations, and congruences. Poly-Bernoulli numbers with level 2 have strong connections with poly-Cauchy numbers with level 2. In a special case, we can determine the denominators of Bernoulli numbers with level 2 by showing a von Staudt–Clausen-like theorem.

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