**Steele, G. Ander**
**The $p$-adic Shintani cocycle.** (English) $\boxed{\text{Zbl 1317.11116}}$

Let $V$ be a vector space over the rationals of finite dimension, and let $C$ be a Shintani set in $V_R = V \otimes_Q R$, as defined by *S. Dasgupta* [Duke Math. J. 143, No. 2, 225–279 (2008; Zbl 1235.11102)]. The author considers the Shintani zeta functions defined by

$$\zeta_{Sh}(f, C; s) = \sum_{v \in C \cap V} \frac{f(v)}{N(v)^s},$$

(where $N(v)$ is the product of coordinates, and $f$ is test function), shows how to attach with these functions certain $p$-adic pseudo-measures, and proves (Theorem 4.19) that under certain conditions on $f$ these pseudo-measures are measures. This is applied to a construction of $p$-adic $L$-functions for totally real number fields (Theorem 6.1).

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**MSC:**

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