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Haar measure on linear groups over local skew fields

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Abstract. General and special linear groups over local fields, as well as their projective counterparts, are prominent examples of totally disconnected, locally compact groups. In this article, an explicit description of Haar measure on these groups is given by computing the measure on special local bases, consisting of open compact subgroups. These data can be used to compute the measure of any open set. In addition to that, I show that all of the groups above are unimodular, and I give a description of Haar measure on the general linear groups in terms of Haar measure on vector spaces over local fields.

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