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## **Cayley Graphs, Cori Hypermaps, and Dessins d'Enfants**

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### **Abstract**

This paper explains some facts probably known to experts and implicitly contained in the literature about dessins d'enfants but which seem to be nowhere explicitly stated. The 1-skeleton of every regular Cori hypermap is the Cayley graph of its automorphism group, embedded in the underlying orientable surface. Conversely, every Cayley graph of a finite two-generator group has an embedding as the 1-skeleton of a regular hypermap in the Cori representation. For non-regular hypermaps there is an analogous correspondence with Schreier coset diagrams.

**Keywords:** Cayley graph, dessin d'enfant, hypermap.

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# Cayleyevi grafi, Corijevi hiperzemljevidi in čečkarije

## Povzetki

V tem članku predstavimo nekatera dejstva, morda znana strokovnjakom in implicitno vsebovana v literaturi o čečkarijah (otročkih risbah), ki pa, kot vse kaže, nikjer niso eksplicitno zabeležena. Tako je 1-skelet vsakega regularnega Corijevega hiperzemljevida Cayleyev graf njegove grupe avtomorfizmov, vložen v orientabilno ploskev tega hiperzemljevida. Obratno, vsak Cayleyev graf končne grupe z dvema generatorjema ima vložitev kot 1-skelet regularnega hiperzemljevida v Corijevi reprezentaciji. Za ne-regularne hiperzemljevide obstaja analogna korespondenca s Schreierjevimi diagrami odsekov.

**Ključne besede:** Cayleyevi grafi, čečkarije (otročke risbe), hiperzemljevidi.