SOME REFERENCES IN TROPICAL GEOMETRY

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Here are some references for an introduction to tropical geometry. In particular, these texts contain further other good references that I certainly forgot.

The most elementary texts I know in tropical geometry are [Bru09], [Bru10], [BPS08] ("unfortunately" in french or portuguese), [SS], [Mik07], and [IM]. Next step are the texts [RGST05], [IMS07] and [Gat]. More familiar readers should have a look to [Mik04] and [Mik06].

To learn more about Hilbert's 16th problem, Viro method, patchworking, and amoebas of algebraic varieties, I refer to [Vir84b], [Vir89],[Vir01], [Vir84a], and [Mik04], as well as to the website [Vir].

RÉFÉRENCES

[BPS08] N. Berline, A. Plagne, and C. Sabbah, editors. *Géométrie tropicale*. Éditions de l'École Polytechnique, Palaiseau, 2008. available at http ://www.math.polytechnique.fr/xups/vol08.html.

[Bru09] E. Brugallé. Un peu de géométrie tropicale. *Quadrature*, (74) :10–22, 2009. available at http ://people.math.jussieu.fr/~brugalle/articles/Quadrature/Quadrature.pdf, solutions of the exercises at http ://people.math.jussieu.fr/~brugalle/articles/Quadrature/Corrections_Quadrature.pdf.

[Bru10] E. Brugallé. Um pouco de geometria tropical. *Matemática Universitária*, 46 :27–40, 2010. Translation from french by E. Amorim and N. Puignau.

[Gat] A. Gathmann. Tropical algebraic geometry. math.AG/0601322.

[IM] I. Itenberg and G. Mikhalkin. Geometry in the tropical limit. arXiv :1108.3111.

[IMS07] I. Itenberg, G Mikhalkin, and E. Shustin. *Tropical Algebraic Geometry*, volume 35 of *Oberwolfach Seminars Series*. Birkhäuser, 2007.

[Mik04] G. Mikhalkin. Amoebas of algebraic varieties and tropical geometry. In *Different faces of geometry*, volume 3 of *Int. Math. Ser. (N. Y.)*, pages 257–300. Kluwer/Plenum, New York, 2004.

[Mik06] G. Mikhalkin. Tropical geometry and its applications. In *International Congress of Mathematicians. Vol. II*, pages 827–852. Eur. Math. Soc., Zürich, 2006.

[Mik07] G. Mikhalkin. What is... a tropical curve ? *Notices Amer. Math. Soc.*, 54(4) :511–513, 2007.

[RGST05] J. Richter-Gebert, B. Sturmfels, and T. Theobald. First steps in tropical geometry. In *Idempotent mathematics and mathematical physics*, volume 377 of *Contemp. Math.*, pages 289–317. Amer. Math. Soc., Providence, RI, 2005.

[SS] D. Speyer and B. Sturmfels. Tropical mathematics. *Mathematics Magazine*. Clay Mathematics Institute lecture, Park City, Utah.

[Vir] O. Viro. http ://www.pdmi.ras.ru/~olegviro/patchworking.html.

[Vir84a] O. Ya. Viro. Gluing of plane real algebraic curves and constructions of curves of degrees 6 and 7. In *Topology (Leningrad, 1982)*, volume 1060 of *Lecture Notes in Math.*, pages 187–200. Springer, Berlin, 1984.

[Vir84b] O. Ya. Viro. Progress in the topology of real algebraic varieties over the last six years. *Russian Math. Surveys*, 41 :55–82, 1984.

[Vir89] O. Ya. Viro. Real plane algebraic curves : constructions with controlled topology. *Leningrad Math. J.*, 1(5) :1059–1134, 1989.

[Vir01] O. Viro. Dequantization of real algebraic geometry on logarithmic paper. In *European Congress of Mathematics, Vol. I (Barcelona, 2000)*, volume 201 of *Progr. Math.*, pages 135–146. Birkhäuser, Basel, 2001.

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