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ВСЕРОССИЙСКАЯ КОНФЕРЕНЦИЯ  
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## Volume of a compact hyperbolic antiprism

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In [1] we consider a compact hyperbolic antiprism. It is a convex polyhedron with  $2n$  vertices in  $H^3$  which has a symmetry group  $S_{2n}$  generated by a mirror-rotational symmetry of order  $2n$ , i.e. rotation to the angle  $\pi/n$  followed by a reflection. We establish necessary and sufficient conditions for the existence of such polyhedra in hyperbolic space  $H^3$ . Then we find relations between their dihedral angles and edge lengths in the form of a cosine rule. Finally, we obtain exact integral formulas expressing the volume of a hyperbolic antiprism in terms of its edge lengths.

### References

1. Abrosimov N., Vuong B. The volume of a compact hyperbolic antiprism, arXiv:1807.08297 [math.MG] 2018, 12 pp.

## Twist number for welded knots

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We introduce a new local move, call it as twist move, and prove that it is an unknotting operation for welded knots. Based upon this unknotting operation we define an invariant, twist number, for welded knots. We prove that this numerical invariant is bounded above by warping degree. Further, we obtain two different lower bounds on the twist number; first one is using the virtual unknotting number and the second one is using Alexander quandle coloring.

## Arc shift number and gordian complex of virtual knots

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In this talk we introduce Gordian complex of virtual knots by arc shift move. Gordian complex is a simplicial complex where vertices are virtual knots. Two vertices have an edge between them if the distance be-