VIRTUAL ELEMENT METHOD AND CURVED BOUNDARIES

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Abstract. After a quick reminder of classical Virtual Element approximations on polygonal and polyhedral decompositions we present a couple of new ideas for the construction of VEM-approximations on domains with curved boundary, both in two and three dimensions. The new approach looks promising, and easy to implement also in three dimensions. However, sound numerical tests should be made to validate the efficiency of the method.

References

[1] Franco Brezzi, L.Donatella Marini, *Virtual Elements on polyhedra with a curved face*, Bulletin of Mathematical Sciences, (online 2023, https://doi.org/10.1142/S1664360723500054)

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