One more step towards well-composedness of cell complexes over nD pictures

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Abstract

An nD pure regular cell complex K is weakly well-composed (wWC) if, for each vertex v of K, the set of n-cells incident to v is
face-connected. In previous work we proved that if an nD picture I is digitally well composed (DWC) then the cubical complex Q(I) associated to I is wWC. If I is not DWC, we proposed a combinatorial algorithm to "locally repair" Q(I) obtaining an nD pure simplicial complex P_S (I) homotopy equivalent to Q(I) which is always wWC. In this paper we give a combinatorial procedure to compute a simplicial complex P_S $(\overline{\{I\}})decomposesthecomplementspaceof|P\_S(I)|andprovethatP\_S(\overline{\{I\}})isalsowWC.Thispapermeansonemorestepo$
$toprovethatthenDrepairedcomplexiscontinuouslywell-composed(CWC),thatis,theboundaryofitscontinuousanalogis$
$-1)-manifold.$

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