Epsilon-regularity for p-harmonic maps at a free boundary on a sphere

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We prove an epsilon-regularity theorem for vector-valued p-harmonic maps, which are critical with respect to a partially free boundary condition, namely that they map the boundary into a round sphere. As a consequence we obtain partial regularity of stationary p-harmonic maps up to the boundary away from a set of $(n-p)$-dimensional Hausdorff measure. Joint work with R. Rodiac and A. Schikorra.