COMPOSITION OPERATORS ON SOBOLEV SPACES AND BALL'S CLASSES

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In this talk we give a new interpretation of Ball's classes $A_{p,r}(\Omega)$ in terms of composition operators on Sobolev spaces. In the framework of the non-linear elasticity problems we propose a generalization of these classes as mappings of integrable inner distortion and we prove a weak regularity of corresponding inverse mappings. Using this approach we characterize cavitation processes in capacitary terms. As a consequence we obtain a characterization of cavitation processes in the terms of the Hausdorff measure

References

[1] Vladimir Gol'dshtein, Alexander Ukhlov. Composition operators on Sobolev spaces and Ball's classes. arXiv:1905.00736 Composition operators on Sobolev spaces and Ball's classes