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	abstract	We obtain well-posedness results in L p -based weighted Sobolev spaces for a transmission problem for anisotropic Stokes and Navier-Stokes systems with L âˆž strongly elliptic coefficient tensor, in complementary Lipschitz domains of R n , n â‰¥ 3. The strong ellipticity allows to explore the associated pseudostress setting. First, we use a variational approach that reduces the anisotropic Stokes system in the whole R n to an equivalent mixed variational formulation with data in L p -based weighted Sobolev spaces. We show that such mixed variational formulation is well-posed in the space H 1 p (R n) n Ã— L p (R n), n â‰¥ 3, for any p in an open interval containing 2. Then similar wellposedness results are obtained for two linear transmission problems. These results are used to define the Newtonian and layer potential operators for the considered anisotropic Stokes system and to obtain mapping properties of these operators. The potentials are employed to show the well-posedness of some linear transmission problems, which then is combined with a fixed point theorem in order to show the well-posedness of a nonlinear transmission problem for the anisotropic Stokes and Navier-Stokes systems in L p -based weighted Sobolev spaces, whenever the given data are small enough. ARTICLE HISTORY Primary 35J25; 35Q35; 42B20; 46E35; Secondary 76D; 76M CONTACT Sergey E. Mikhailov sergey.mikhailov@brunel.ac.uk Dedicated to Professor M. Lanza de Cristoforis on the occasion of his 60th birthday. This article has been republished with minor changes. These changes do not impact the academic content of the article.	**abstract**	We obtain well-posedness results in L_p-based weighted Sobolev spaces for a transmission problem for anisotropic Stokes and Navier-Stokes systems with L_âˆž strongly elliptic coefficient tensor, in complementary Lipschitz domains of R^n, n> 3. The strong ellipticity allows to explore the associated pseudostress setting. First, we use a variational approach that reduces two linear transmission problems for the anisotropic Stokes system to equivalent mixed variational formulations with data in L_p-based weighted Sobolev and Besov spaces. We show that such a mixed variational formulation is well-posed in the space H^1_p(R^n)^nÃ— L_p(R^n), nâ‰¥ 3, for any p in an open interval containing 2. These results are used to define the Newtonian and layer potential operators for the considered anisotropic Stokes system. Various mapping properties of these operators are also obtained. The potentials are employed to show the well-posedness of some linear transmission problems, which then is combined with a fixed point theorem in order to show the well-posedness of the nonlinear transmission problem for the anisotropic Stokes and Navier-Stokes systems in L_p-based weighted Sobolev spaces, whenever the given data are small enough.		
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