

cases	doc_1		doc_2		decision	id
	authors	<ul style="list-style-type: none">Bucci, Michele-AlessandroCharpiat, GuillaumeFaney, ThibaultGratien, Jean-MarcNastorg, MatthieuSchoenauer, Marc	authors	<ul style="list-style-type: none">Bucci, Michele-AlessandroCharpiat, GuillaumeFaney, ThibaultGratien, Jean-MarcNastorg, MatthieuSchoenauer, Marc	NOT DUPLICATES	352
	title	DS-GPS : A Deep Statistical Graph Poisson Solver (for faster CFD simulations)	title	DS-GPS : A Deep Statistical Graph Poisson Solver (for faster CFD simulations)		
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	urls	<ul style="list-style-type: none">https://core.ac.uk/download/543851383.pdf	urls	<ul style="list-style-type: none">http://arxiv.org/abs/2211.11763		
	id	id7868033305651603007	id	id-6900464954183002176		
	abstract	International audienceThis paper proposes a novel Machine Learning-based approach to solve a Poisson problem with mixed boundary conditions. Leveraging Graph Neural Networks, we develop a model able to process unstructured grids with the advantage of enforcing boundary conditions by design. By directly minimizing the residual of the Poisson equation, the model attempts to learn the physics of the problem without the need for exact solutions, in contrast to most previous data-driven processes where the distance with the available solutions is minimized	abstract	This paper proposes a novel Machine Learning-based approach to solve a Poisson problem with mixed boundary conditions. Leveraging Graph Neural Networks, we develop a model able to process unstructured grids with the advantage of enforcing boundary conditions by design. By directly minimizing the residual of the Poisson equation, the model attempts to learn the physics of the problem without the need for exact solutions, in contrast to most previous data-driven processes where the distance with the available solutions is minimized		
	versions		versions			