

# Ianlan Jiang

## List of Publications by Year in descending order

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123  
papers

3,016  
citations

172457

29  
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223800

46  
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123  
all docs

123  
docs citations

123  
times ranked

1753  
citing authors

#	ARTICLE	IF	CITATIONS
1	Geological storage of carbon dioxide by residual gas and solubility trapping. International Journal of Greenhouse Gas Control, 2008, 2, 58-64.	4.6	168
2	Hydrate-based technology for CO <sub>2</sub> capture from fossil fuel power plants. Applied Energy, 2014, 116, 26-40.	10.1	118
3	An improved differential box-counting method to estimate fractal dimensions of gray-level images. Journal of Visual Communication and Image Representation, 2014, 25, 1102-1111.	2.8	107
4	Effect of depressurization pressure on methane recovery from hydrate-bearing water bearing sediments. Fuel, 2016, 166, 419-426.	6.4	93
5	Gas recovery from depressurized methane hydrate deposits with different water saturations. Applied Energy, 2017, 187, 180-188.	10.1	85
6	Measurement and estimation of CO <sub>2</sub> -brine interfacial tension and rock wettability under CO <sub>2</sub> sub- and super-critical conditions. Journal of Colloid and Interface Science, 2019, 534, 605-617.	9.4	79
7	Study of Selected Factors Affecting Hydrate-Based Carbon Dioxide Separation from Simulated Fuel Gas in Porous Media. Energy & Fuels, 2013, 27, 3341-3348.	5.1	67
8	Effects of operating mode and pressure on hydrate-based desalination and CO <sub>2</sub> capture in porous media. Applied Energy, 2014, 135, 504-511.	10.1	66
9	Effects of additive mixtures (THF/SDS) on carbon dioxide hydrate formation and dissociation in porous media. Chemical Engineering Science, 2013, 90, 69-76.	3.8	63
10	Production characteristics of two class water-excess methane hydrate deposits during depressurization. Fuel, 2018, 232, 99-107.	6.4	60
11	CO <sub>2</sub> Hydrate Formation and Dissociation in Cooled Porous Media: A Potential Technology for CO <sub>2</sub> Capture and Storage. Environmental Science & Technology, 2013, 47, 9739-9746.	10.0	55
12	Dependence of the hydrate-based CO <sub>2</sub> storage process on the hydrate reservoir environment in high-efficiency storage methods. Chemical Engineering Journal, 2021, 415, 128937.	12.7	54
13	Effects of Additive Mixture (THF/SDS) on the Thermodynamic and Kinetic Properties of CO <sub>2</sub> /H <sub>2</sub> O Hydrate in Porous Media. Industrial & Engineering Chemistry Research, 2013, 52, 4911-4918.	3.7	53
14	Post-combustion CO <sub>2</sub> capture and separation in flue gas based on hydrate technology: A review. Renewable and Sustainable Energy Reviews, 2022, 154, 111806.	16.4	52
15	Three-dimensional structure of natural convection in a porous medium: Effect of dispersion on finger structure. International Journal of Greenhouse Gas Control, 2016, 53, 274-283.	4.6	50
16	Experimental study of 3D Rayleigh-Taylor convection between miscible fluids in a porous medium. Advances in Water Resources, 2016, 97, 224-232.	3.8	47
17	Application of MRI in the Measurement of Two-Phase Flow of Supercritical CO <sub>2</sub> and Water in Porous Rocks. Journal of Porous Media, 2009, 12, 143-154.	1.9	43
18	Pore-scale visualization of gas trapping in porous media by X-ray CT scanning. Flow Measurement and Instrumentation, 2010, 21, 262-267.	2.0	42

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19	Visualization of CO <sub>2</sub> and oil immiscible and miscible flow processes in porous media using NMR micro-imaging. <i>Petroleum Science</i> , 2011, 8, 183-193.	4.9	42
20	An experimental study on CO <sub>2</sub> /water displacement in porous media using high-resolution Magnetic Resonance Imaging. <i>International Journal of Greenhouse Gas Control</i> , 2012, 10, 501-509.	4.6	39
21	In Situ Local Contact Angle Measurement in a CO <sub>2</sub> -Brine-Sand System Using Microfocused X-ray CT. <i>Langmuir</i> , 2017, 33, 3358-3366.	3.5	38
22	Mass transfer coefficient measurement during brine flush in a CO <sub>2</sub> -filled packed bed by X-ray CT scanning. <i>International Journal of Heat and Mass Transfer</i> , 2017, 115, 615-624.	4.8	38
23	MRI measurements of CO <sub>2</sub> hydrate dissociation rate in a porous medium. <i>Magnetic Resonance Imaging</i> , 2011, 29, 1007-1013.	1.8	36
24	Interfacial tension and contact angle measurements for the evaluation of CO <sub>2</sub> -brine two-phase flow characteristics in porous media. <i>Environmental Progress and Sustainable Energy</i> , 2015, 34, 1756-1762.	2.3	35
25	Methane hydrate formation/reformation in three experimental modes: A preliminary investigation of blockage prevention during exploitation. <i>Journal of Natural Gas Science and Engineering</i> , 2015, 27, 1814-1820.	4.4	33
26	Quantitative analysis of methane hydrate formation in size-varied porous media for gas storage and transportation application. <i>Fuel</i> , 2021, 301, 121021.	6.4	33
27	Asymmetric competitive adsorption of CO <sub>2</sub> /CH <sub>4</sub> binary mixture in shale matrix with heterogeneous surfaces. <i>Chemical Engineering Journal</i> , 2021, 422, 130025.	12.7	33
28	Effects of an additive mixture (THF+TBAB) on CO <sub>2</sub> hydrate phase equilibrium. <i>Fluid Phase Equilibria</i> , 2015, 401, 27-33.	2.5	32
29	Experimental study on the displacement patterns and the phase diagram of immiscible fluid displacement in three-dimensional porous media. <i>Advances in Water Resources</i> , 2020, 140, 103584.	3.8	32
30	Microscope insights into gas hydrate formation and dissociation in sediments by using microfluidics. <i>Chemical Engineering Journal</i> , 2021, 425, 130633.	12.7	32
31	CO <sub>2</sub> Hydrate Formation Characteristics in a Water/Brine-Saturated Silica Gel. <i>Industrial &amp; Engineering Chemistry Research</i> , 2014, 53, 10753-10761.	3.7	31
32	Experimental study on CO <sub>2</sub> diffusion in bulk n-decane and n-decane saturated porous media using micro-CT. <i>Fluid Phase Equilibria</i> , 2016, 417, 212-219.	2.5	30
33	Effect of nanoparticles as a substitute for kinetic additives on the hydrate-based CO <sub>2</sub> capture. <i>Chemical Engineering Journal</i> , 2021, 424, 130329.	12.7	30
34	Estimation of minimum miscibility pressure (MMP) of CO <sub>2</sub> and liquid n-alkane systems using an improved MRI technique. <i>Magnetic Resonance Imaging</i> , 2016, 34, 97-104.	1.8	29
35	Permeability estimation of porous media by using an improved capillary bundle model based on micro-CT derived pore geometries. <i>Heat and Mass Transfer</i> , 2017, 53, 49-58.	2.1	29
36	Review of Morphology Studies on Gas Hydrate Formation for Hydrate-Based Technology. <i>Crystal Growth and Design</i> , 2020, 20, 8148-8161.	3.0	29

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37	Magnetic resonance imaging study on near miscible supercritical CO <sub>2</sub> flooding in porous media. <i>Physics of Fluids</i> , 2013, 25, .	4.0	28
38	Investigation of CO <sub>2</sub> dissolution via mass transfer inside a porous medium. <i>Advances in Water Resources</i> , 2017, 110, 97-106.	3.8	28
39	NMR quantitative investigation on methane hydrate formation characteristics under different driving forces. <i>Fuel</i> , 2020, 261, 116364.	6.4	28
40	Unstable Density-Driven Convection of CO <sub>2</sub> in Homogeneous and Heterogeneous Porous Media With Implications for Deep Saline Aquifers. <i>Water Resources Research</i> , 2021, 57, e2020WR028132.	4.2	28
41	Quantitative analysis of CO <sub>2</sub> hydrate formation in porous media by proton NMR. <i>AIChE Journal</i> , 2020, 66, e16820.	3.6	27
42	Dissociation characteristics of methane hydrate using depressurization combined with thermal stimulation. <i>Chinese Journal of Chemical Engineering</i> , 2019, 27, 2089-2098.	3.5	26
43	CO <sub>2</sub> and alkane minimum miscible pressure estimation by the extrapolation of interfacial tension. <i>Fluid Phase Equilibria</i> , 2019, 494, 103-114.	2.5	26
44	High-efficiency separation of CO <sub>2</sub> from CO <sub>2</sub> -CH <sub>4</sub> gas mixtures via gas hydrates under static conditions. <i>Separation and Purification Technology</i> , 2022, 296, 121297.	7.9	26
45	An experimental study of density-driven convection of fluid pairs with viscosity contrast in porous media. <i>International Journal of Heat and Mass Transfer</i> , 2020, 152, 119514.	4.8	25
46	Behaviour of hydrate-based technology for H <sub>2</sub> /CO <sub>2</sub> separation in glass beads. <i>Separation and Purification Technology</i> , 2015, 141, 170-178.	7.9	24
47	Dynamic measurements of hydrate based gas separation in cooled silica gel. <i>Journal of Industrial and Engineering Chemistry</i> , 2014, 20, 322-330.	5.8	22
48	Quantifying the dynamic density driven convection in high permeability packed beds. <i>Magnetic Resonance Imaging</i> , 2017, 39, 168-174.	1.8	22
49	Pore-throat characterization of unconsolidated porous media using watershed-segmentation algorithm. <i>Powder Technology</i> , 2020, 362, 635-644.	4.2	21
50	A review of micro computed tomography studies on the gas hydrate pore habits and seepage properties in hydrate bearing sediments. <i>Journal of Natural Gas Science and Engineering</i> , 2020, 83, 103555.	4.4	21
51	Minimum miscibility pressure estimation for a CO <sub>2</sub> /n-decane system in porous media by X-ray CT. <i>Experiments in Fluids</i> , 2015, 56, 1.	2.4	20
52	Experimental determination of wettability and heterogeneity effect on CO <sub>2</sub> distribution in porous media. , 2016, 6, 401-415.		20
53	Three-Dimensional Visualization of Natural Convection in Porous Media. <i>Energy Procedia</i> , 2016, 86, 460-468.	1.8	20
54	MRI investigation of hydrate pore habits and dynamic seepage characteristics in natural gas hydrates sand matrix. <i>Fuel</i> , 2021, 303, 121287.	6.4	20

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55	Adsorption isotherms and kinetic characteristics of methane on block anthracite over a wide pressure range. <i>Journal of Energy Chemistry</i> , 2015, 24, 245-256.	12.9	19
56	Pore-scale Imaging and Analysis of Phase Topologies and Displacement Mechanisms for CO <sub>2</sub> -Brine Two-Phase Flow in Unconsolidated Sand Packs. <i>Water Resources Research</i> , 2017, 53, 9127-9144.	4.2	19
57	CO <sub>2</sub> /water two-phase flow in a two-dimensional micromodel of heterogeneous pores and throats. <i>RSC Advances</i> , 2016, 6, 73897-73905.	3.6	18
58	Displacement front behavior of near miscible CO <sub>2</sub> flooding in decane saturated synthetic sandstone cores revealed by magnetic resonance imaging. <i>Magnetic Resonance Imaging</i> , 2017, 37, 171-178.	1.8	18
59	Hydrate phase equilibrium measurements for (THF+SDS+CO <sub>2</sub> +N <sub>2</sub> ) aqueous solution systems in porous media. <i>Fluid Phase Equilibria</i> , 2014, 370, 12-18.	2.5	17
60	Pore-scale contact angle measurements of CO <sub>2</sub> -brine-glass beads system using micro-focused X-ray computed tomography. <i>Micro and Nano Letters</i> , 2016, 11, 524-527.	1.3	17
61	MRI observation of CO <sub>2</sub> -C <sub>3</sub> H <sub>8</sub> hydrate-induced water migration in glass sand. <i>Chemical Engineering Science</i> , 2019, 207, 1096-1106.	3.8	17
62	Experimental study on the CO <sub>2</sub> -decane displacement front behavior in high permeability sand evaluated by magnetic resonance imaging. <i>Energy</i> , 2021, 217, 119433.	8.8	16
63	Pore-scale investigation on nonaqueous phase liquid dissolution and mass transfer in 2D and 3D porous media. <i>International Journal of Heat and Mass Transfer</i> , 2021, 169, 120901.	4.8	16
64	Kinetic analysis of nano-SiO <sub>2</sub> promoting methane hydrate formation in porous medium. <i>Journal of Natural Gas Science and Engineering</i> , 2020, 79, 103375.	4.4	16
65	Production Behaviors of Water-Saturated Methane Hydrate Deposits during the Depressurization with/without Thermal Water Compensation Process. <i>Energy &amp; Fuels</i> , 2021, 35, 1638-1647.	5.1	16
66	Hydrate phase equilibrium for CH <sub>4</sub> -CO <sub>2</sub> -CH <sub>2</sub> O system in porous media. <i>Canadian Journal of Chemical Engineering</i> , 2016, 94, 1592-1598.	1.7	15
67	Application of X-ray Computed Tomography Technology in Gas Hydrate. <i>Energy Technology</i> , 2019, 7, 1800699.	3.8	15
68	Phase Equilibrium Data of CO <sub>2</sub> -MCP Hydrates and CO <sub>2</sub> Gas Uptake Comparisons with CO <sub>2</sub> -CP Hydrates and CO <sub>2</sub> -C <sub>3</sub> H <sub>8</sub> Hydrates. <i>Journal of Chemical &amp; Engineering Data</i> , 2019, 64, 372-379.	1.9	15
69	Morphology-Based Kinetic Study of the Formation of Carbon Dioxide Hydrates with Promoters. <i>Energy &amp; Fuels</i> , 2020, 34, 7307-7315.	5.1	15
70	Magnetic resonance imaging analysis on the in-situ mixing zone of CO <sub>2</sub> miscible displacement flows in porous media. <i>Journal of Applied Physics</i> , 2014, 115, 244904.	2.5	14
71	Pore-scale investigation of effects of heterogeneity on CO <sub>2</sub> geological storage using stratified sand packs. , 2017, 7, 972-987.		14
72	The horizontal dispersion properties of CO <sub>2</sub> -CH <sub>4</sub> in sand packs with CO <sub>2</sub> displacing the simulated natural gas. <i>Journal of Natural Gas Science and Engineering</i> , 2018, 50, 293-300.	4.4	14

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73	Enhancement of CO <sub>2</sub> dissolution and sweep efficiency in saline aquifer by micro bubble CO <sub>2</sub> injection. International Journal of Heat and Mass Transfer, 2019, 138, 1211-1221.	4.8	14
74	Dynamic evolution of the CO <sub>2</sub> -brine interfacial area during brine imbibition in porous media. International Journal of Heat and Mass Transfer, 2019, 128, 1125-1135.	4.8	14
75	Quantitative study of density-driven convection mass transfer in porous media by MRI. Journal of Hydrology, 2021, 594, 125941.	5.4	14
76	Kinetics and spatial distribution of tetrahydrofuran/methane hydrate formation in an unstirred reactor: Application in natural gas storage. Fuel, 2021, 300, 121011.	6.4	14
77	Characterizing the Dissolution Rate of CO <sub>2</sub> -Brine in Porous Media under Gaseous and Supercritical Conditions. Applied Sciences (Switzerland), 2018, 8, 4.	2.5	13
78	The effect of density difference on the development of density-driven convection under large Rayleigh number. International Journal of Heat and Mass Transfer, 2019, 139, 1087-1095.	4.8	13
79	Dispersion characteristics of CO <sub>2</sub> enhanced gas recovery over a wide range of temperature and pressure. Journal of Natural Gas Science and Engineering, 2020, 73, 103056.	4.4	12
80	The effects of porous medium and temperature on exothermic tetrahydrofuran hydrate formation. Journal of Chemical Thermodynamics, 2014, 78, 167-174.	2.0	11
81	Study of Density Driven Convection in a Hele-Shaw Cell with Application to the Carbon Sequestration in Aquifers. Energy Procedia, 2017, 114, 4303-4312.	1.8	11
82	Behavior of CO <sub>2</sub> /water flow in porous media for CO <sub>2</sub> geological storage. Magnetic Resonance Imaging, 2017, 37, 100-106.	1.8	11
83	Behaviors of NaCl Ions Intruding into Methane Hydrate under a Static Electric Field. Journal of Physical Chemistry C, 2021, 125, 18483-18493.	3.1	11
84	High resolution MRI studies of CO <sub>2</sub> hydrate formation and dissociation near the gas-water interface. Chemical Engineering Journal, 2021, 425, 131426.	12.7	11
85	Dynamic Measurements of CO <sub>2</sub> Flow in Water Saturated Porous Medium at Low Temperature Using MRI. Energy Procedia, 2013, 37, 1267-1274.	1.8	10
86	Dynamic stability characteristics of fluid flow in CO <sub>2</sub> miscible displacements in porous media. RSC Advances, 2015, 5, 34839-34853.	3.6	10
87	Characterization of dissolution process during brine injection in Berea sandstones: an experiment study. RSC Advances, 2016, 6, 114320-114328.	3.6	10
88	Gravitational Fingering Due to Density Increase by Mixing at a Vertical Displacing Front in Porous Media. Energy & Fuels, 2018, 32, 658-669.	5.1	10
89	Effects of Na <sup>+</sup> , K <sup>+</sup> , Ca <sup>2+</sup> , and Mg <sup>2+</sup> cations on CO <sub>2</sub> -brine interfacial tension under offshore storage conditions. , 2018, 8, 762-780.		10
90	CO <sub>2</sub> diffusion in n-hexadecane investigated using magnetic resonance imaging and pressure decay measurements. RSC Advances, 2014, 4, 50180-50187.	3.6	9

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91	Application of X-ray CT investigation of CO <sub>2</sub> brine flow in porous media. <i>Experiments in Fluids</i> , 2015, 56, 1.	2.4	9
92	Experimental Study of Density-driven Convection in Porous Media by Using MRI. <i>Energy Procedia</i> , 2017, 105, 4210-4215.	1.8	9
93	Enhanced Mass Transfer by Density-Driven Convection during CO <sub>2</sub> Geological Storage. <i>Industrial &amp; Engineering Chemistry Research</i> , 2020, 59, 9300-9309.	3.7	9
94	Pore-scale investigation of wettability impact on residual nonaqueous phase liquid dissolution in natural porous media. <i>Science of the Total Environment</i> , 2021, 787, 147406.	8.0	9
95	Production Characteristics of Natural Gas Hydrate in Muddy Marine Sediments of Different Moistures by Depressurization. <i>Energy &amp; Fuels</i> , 2022, 36, 1522-1530.	5.1	9
96	A visualization study on two-phase gravity drainage in porous media by using magnetic resonance imaging. <i>Magnetic Resonance Imaging</i> , 2016, 34, 855-863.	1.8	8
97	Effects of Multiple Factors on Methane Hydrate Reformation in a Porous Medium. <i>ChemistrySelect</i> , 2017, 2, 6030-6035.	1.5	8
98	The role of flow rates on flow patterns and saturation in high-permeability porous media. <i>International Journal of Greenhouse Gas Control</i> , 2018, 78, 364-374.	4.6	8
99	A spectrophotometric method for measuring dissolved CO <sub>2</sub> in saline water. <i>Experiments in Fluids</i> , 2018, 59, 1.	2.4	8
100	High-efficiency gas storage via methane-tetrahydrofuran hydrate formation: Insights from hydrate structure and morphological analyses. <i>Fuel</i> , 2022, 311, 122494.	6.4	8
101	Diffusion Properties for CO <sub>2</sub> Brine System under Sequestration-Related Pressures with Consideration of the Swelling Effect and Interfacial Area. <i>Industrial &amp; Engineering Chemistry Research</i> , 0, , .	3.7	7
102	Change in Convection Mixing Properties with Salinity and Temperature: CO <sub>2</sub> Storage Application. <i>Polymers</i> , 2020, 12, 2084.	4.5	7
103	Promoting and Inhibitory Effects of Hydrophilic/Hydrophobic Modified Aluminum Oxide Nanoparticles on Carbon Dioxide Hydrate Formation. <i>Energies</i> , 2020, 13, 5380.	3.1	7
104	New Spectrophotometric Method for Quantitative Characterization of Density-Driven Convective Instability. <i>Polymers</i> , 2021, 13, 661.	4.5	7
105	Effects of Particle Sizes on Growth Characteristics of Propane Hydrate in Uniform/Nonuniform Sands for Desalination Application. <i>Energy &amp; Fuels</i> , 2022, 36, 1003-1014.	5.1	7
106	Solar radiation transfer and performance analysis for a low concentrating photovoltaic/thermal system. <i>Environmental Progress and Sustainable Energy</i> , 2016, 35, 263-270.	2.3	6
107	Experimental study of two-phase flow properties of CO <sub>2</sub> containing N <sub>2</sub> in porous media. <i>RSC Advances</i> , 2016, 6, 59360-59369.	3.6	6
108	Experimental Study on the Density-Driven Convective Mixing of CO <sub>2</sub> and Brine at Reservoir Temperature and Pressure Conditions. <i>Energy &amp; Fuels</i> , 2022, 36, 10261-10268.	5.1	6

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109	CO <sub>2</sub> /Water Displacement in Porous Medium Under Pressure and Temperature Conditions for Geological Storage. Energy Procedia, 2014, 61, 282-285.	1.8	5
110	Study of the fluid flow characteristics in a porous medium for CO <sub>2</sub> geological storage using MRI. Magnetic Resonance Imaging, 2014, 32, 574-584.	1.8	5
111	MRI investigation of water-oil two phase flow in straight capillary, bifurcate channel and monolayered glass bead pack. Magnetic Resonance Imaging, 2015, 33, 918-926.	1.8	5
112	An Experimental Study on the Influence of CO <sub>2</sub> Containing N <sub>2</sub> on CO <sub>2</sub> Sequestration by X-ray CT Scanning. Energy Procedia, 2017, 114, 4119-4128.	1.8	5
113	Effect of Methane Solubility on Hydrate Formation and Dissociation: Review and Perspectives. Energy & Fuels, 2022, 36, 7269-7283.	5.1	5
114	Measurement of Two Phase Flow in Porous Medium Using High-resolution Magnetic Resonance Imaging. Chinese Journal of Chemical Engineering, 2013, 21, 85-93.	3.5	4
115	Assessment of fluid distribution and flow properties in two phase fluid flow using X-ray CT technology. Heat and Mass Transfer, 2018, 54, 1217-1224.	2.1	4
116	Fast Peel-off Ultrathin, Transparent, and Free-standing Films Assembled from Low-dimensional Materials Using MXene Sacrificial Layers and Produced Bubbles. Small Methods, 2021, , 2101388.	8.6	3
117	An experiment study on fluid heat and mass transfer properties in porous media using MRI. Russian Journal of Physical Chemistry A, 2014, 88, 2214-2219.	0.6	2
118	CO <sub>2</sub> capillary trapping behaviour in glass sand packed heterogeneous porous media during drainage and imbibition revealed by magnetic resonance imaging. RSC Advances, 2016, 6, 101452-101461.	3.6	2
119	The Effect of Water Flushing on CO <sub>2</sub> Concentration Around Injection Well as Identified through Laboratory Study. Energy Procedia, 2017, 114, 4896-4901.	1.8	2
120	Displacement and Dissolution Characteristics of CO <sub>2</sub> /Brine System in Unconsolidated Porous Media. Transport in Porous Media, 2018, 122, 595-609.	2.6	2
121	Experiment Study on Temperature Distribution in Water-Saturated Porous Media. Applied Magnetic Resonance, 2015, 46, 793-808.	1.2	0
122	Noninvasive temperature and velocity mapping using magnetic resonance imaging. Journal of Visualization, 2016, 19, 403-415.	1.8	0
123	Study on Seepage and Mass Transfer Characteristics During CO <sub>2</sub> Storage in Saline Aquifer. Lecture Notes in Civil Engineering, 2022, , 210-220.	0.4	0