## PUBLICATIONS

H. Zhang, Tian., K., & Bhaidasna, K. (2025). Efficient contact algorithm for 3D finite element modeling of bottomhole assemblies: validation and application. *SPE J, 30*(03), 1237–1255. https://doi.org/10.2118/220694-PA

J. Xu, Demirer, N., Pho, V., Tian, K., Zhang, H., Bhaidasna, K., Darbe, R., & Chen, D. (2024). Advancing real-time drilling trajectory prediction with an efficient nonlinear DDE model and online parameter estimation. *Geoenergy Science and Engineering*, 238, 212829. https://doi.org/10.1016/j.geoen.2024.212829

H. Zhang, Tian, K., & Detournay, E. (2024). A high-fidelity model for nonlinear self-excited oscillations in rotary drilling systems. *J. Sound Vib.*, 573, 118193. https://doi.org/10.1016/j.jsv.2023.118193

K. Chen, Zhang, H., van de Wouw, N., & Detournay, E. (2024). An alternative approach to model the dynamics of a milling tool. *J. Sound Vib.*, 569, 117940. https://doi.org/10.1016/j.jsv.2023.117940

H. Zhang, Le, J., & Detournay, E. (2023). Application of wavelet to strength log from scratch test. *J. Rock Mech. Geotech.*, *15*(5), 1161-1170. https://doi.org/10.1016/j.jrmge.2022.09.002

Y. Zhang, Zhang, H., Chen, D., Ashok, P., & van Oort, E. (2023). Comprehensive review of high frequency torsional oscillations while drilling. *J. Pet. Sci. Eng.*, 220, 11116. https://doi.org/10.1016/j.petrol.2022.111161

J. Xu, Keller, A., Demier, N., Zhang, H., Tian, K., Bhaidasna, K., & Darbe, R. (2023). Experimentally Validated Nonlinear Delayed Differential Approach to Model Borehole Propagation for Directional Drilling. *Letters Dyn. Sys. Control*, *3*(2), 021007. https://doi.org/10.1115/1.4063477

H. Zhang, Le, J., & Detournay, E. (2022). An experimental investigation of brittle failure mechanisms in scratch tests of rock. *Eng. Fract. Mech.*, 275,108827. https://doi.org/10.1016/j.engfracmech.2022.108827

H. Zhang, & Detournay, E. (2022). A high-dimensional model to study the self-excited oscillations of rotary drilling systems, Commun. *Nonlinear Sci. and Numer. Simul.*, 112, 106549. https://doi.org/10.1016/j.cnsns.2022.106549

K. Tian, Detournay, E., & Zhang, H. (2022). An alternative formulation for modeling self-excited vibrations of drillstring with PDC bits, *J. Comput. Nonlinear Dynam. 17*(5), 051002. https://doi.org/10.1115/1.4053407

K. Chen, Zhang, H., van de Wouw, N., & Detournay, E. (2022). An alternative approach to compute chip thickness in milling. *J. Manuf. Sci. Eng.*, *144*(11), 111006. https://doi.org/10.1115/1.4054804

K. Qin., Di, Q., Zhou, X., He, Y., Wang, W., Chen, F., & Zhang, H. (2022). Nonlinear dynamic characteristics of the drill-string for deep-water and ultra-deep water drilling. *J. Pet. Sci. Eng.*, 209, 109905. https://doi.org/10.1016/j.petrol.2021.109905

H. Zhang, Ashok, P., van Oort, E., & Shor, R. (2021). Investigation of pipe rocking and agitator effectiveness on friction reduction during slide drilling. *J. Pet. Sci. Eng.*, 204, 108720. https://doi.org/10.1016/j.petrol.2021.108720

H. Zhang, Di, Q., Wang, W., Chen, F., & Duan, H. (2021). Numerical stability analysis of the rotary drilling system on the basis of state-dependent delay. *Journal of Vibration and Shock*, *42*(22), 238–246 (in Chinese).

Q. Di, Qin, K., Chen, T., Liu, B., Li, S., Zhou, X., Wang, W., Chen, F., & Zhang, H. (2021). An innovative method for studying the dynamic failure mechanism of box connection of stabilizer in large diameter wellbore of ultra-deep wells. *J. Pet. Sci. Eng.*, 205, 108822. https://doi.org/10.1016/j.petrol.2021.108822

H. Zhang, & Detournay, E. (2020). An alternative approach to model nonlinear coupled axial/torsional oscillations of drillstring. *J. Sound Vib.*, 474, 115241. https://doi.org/10.1016/j.jsv.2020.115241

H. Zhang, Di, Q., Li, N., Wang, W., & Chen, F. (2020). The measurement and simulation of nonlinear drillstring stick-slip and whirling vibrations. *Int. J. Non Linear Mech.*, 125, 103528. https://doi.org/10.1016/j.ijnonlinmec.2020.103528

W. Wang, Zhang, H., Li, N., Wang, C., Teng, X., Zhu, W., & Di, Q. (2019). The dynamic deviation control mechanism of the prebent pendulum BHA in air drilling. *J. Pet. Sci. Eng.*, 176, 521-531. https://doi.org/10.1016/j.petrol.2019.01.008

L. Chen, Di, Q., Lou, E., Zhou, B., Zhang, H., Wang, W., Hu, F. (2019). The visualization of rub-impact characteristics of drill string on casing. *J. Pet. Sci. Eng.*, 174, 1321–1331. https://doi.org/10.1016/j.petrol.2018.11.016

H. Zhang, Di, Q., Wang, W., Chen, F., & Chen, W. (2018). Lateral vibration analysis of pre-bent pendulum bottom hole assembly used in air drilling. *J. Vib. Control*, *24*(22), 5213-5224. https://doi.org/10.1177/1077546317747778

W. Chen, Di, Q., Zhang, H., Chen, F., and Wang, W. (2018). The sealing mechanism of tubing and casing premium threaded connections under complex loads. *J. Pet. Sci. Eng.*, 171, 724-730. https://doi.org/10.1016/j.petrol.2018.07.079

H. Zhang, Di, Q., Qin, G., Chen, W., Wang, W., & Chen, F. (2017). Quick solution method for lateral vibration response of Pre-bent bottom-hole assembly. *Acta Petrolei Sinica*, *38*(12), 1441-1447 (in Chinese). http://dx.doi.org/10.7623/syxb201712012

Q. Di, Song, H., Chen, F., Zhang, H., Wang, W., & Li, N. (2016). The effect of bending moment direction on tool joints: Working load limits under complex loads. *J. Nat. Gas Sci. Eng.*, 35, 532-540. https://doi.org/10.1016/j.jngse.2016.09.007