

## 吕志涛

讲师，博士，1990年生，河南淮滨人，汉族。主要从事岩石力学与地下工程方面的研究，具体研究方向包括冻融岩石力学、寒区隧道工程、地下工程复变函数解析方法、岩体裂隙扩展相场法等。



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### 教育经历:

- (1) 2015.09 至 2019.06, 同济大学, 土木工程 (隧道及地下工程), 博士
- (2) 2012.09 至 2015.06, 重庆大学, 土木工程 (岩土工程), 硕士
- (3) 2008.09 至 2012.06, 河南理工大学, 土木工程, 学士

### 科研与学术工作经历:

- (1) 2019.07 至今, 南昌大学, 工程建设学院土木工程系, 讲师

### 代表性科研项目/课题 (限 5 项):

- (1) 国家自然科学基金青年项目(52108370), 非各向均匀冻融作用下岩石各向异性演化与寒区隧道冻胀力响应研究, 2022-01-01 至 2024-12-31, 主持
- (2) 江西省自然科学基金青年项目(20212BAB214062), 单向冻融损伤作用下岩石各向异性力学特性演化及工程响应, 2022-01-01 至 2024-12-31, 主持
- (3) 江西省自然科学基金面上项目(20224BAB204061), 冻胀荷载与单向冻融耦合作用下裂隙岩体断裂演化及寒区隧道力学响应, 2023-01-01 至 2025-12-31, 主持
- (4) 浙江省岩石力学与地质灾害重点实验室开放基金(ZJRMG-2019-05), 单向冻融循环作用下岩石的变形规律及各向异性力学特性, 2019-12-01 至 2021-11-30, 主持
- (5) 国家科技支撑计划项目(2014BAG05B05), 多年冻土区大尺度桥隧构造物灾变风险与控制技术研究, 2014-01-01 至 2016-12-31, 参与

### 代表性科研成果 (限 10 项):

- (1) Lv Zhitao, Luo Sicheng, Xia Caichu, et al. A thermal-mechanical coupling elastoplastic model of freeze-thaw deformation for porous rocks[J]. Rock Mechanics and Rock Engineering, 2022, 55(6): 3195-3212. (SCI)
- (2) Lv Zhitao, Xia Caichu, Li Qiang, et al. Empirical frost heave model for saturated rock under uniform and unidirectional freezing conditions[J]. Rock Mechanic and Rock engineering, 2019, 52(3):955-963. (SCI)
- (3) Lv Zhitao, Yuan Shiqing, Lin Hai. Analytical stress solution for cold region tunnels with unequal ground stress and support delay under different frost heave conditions of surrounding rock[J]. Cold Regions Science and Technology, 2023, 206: 103742. (SCI)
- (4) Lyu Zhitao, Xia Caichu, Liu Weiping. Analytical solution of frost heaving force and stress distribution in cold region tunnels under non-axisymmetric stress and transversely isotropic frost heave of surrounding rock[J]. Cold Regions Science and Technology, 2020, 178: 103117. (SCI)
- (5) Lv Zhitao, Xia Caichu, Wang Yuesong, et al. Frost heave and freezing processes of saturated rock with an open crack under different freezing conditions[J]. Frontiers of Structural and Civil Engineering, 2020, 14(4): 947-960. (SCI)
- (6) Lv Zhitao, Xia Caichu, Wang Yuesong, et al. Analytical elasto-plastic solution of frost heaving

force in cold region tunnels considering transversely isotropic frost heave of surrounding rock[J]. Cold Regions Science and Technology, 2019, 163: 87–97. (SCI)

(7) Xia Caichu, Lv Zhitao\*, Li Qiang, et al. Transversely isotropic frost heave of saturated rock under unidirectional freezing condition and induced frost heaving force in cold region tunnels[J]. Cold Regions Science and Technology, 2018, 152: 48–58. (SCI, 通讯作者)

(8) Lv Zhitao, Xia Caichu, Li Qiang. Experimental and numerical study on frost heave of saturated rock under uniform freezing conditions[J]. Journal of Geophysics and Engineering, 2018, 15(2): 593–612. (SCI)

(9) 吕志涛, 夏才初, 李强, 等. 单向冻结时开放条件下饱和砂岩冻胀试验及 THM 耦合冻胀模型[J]. 岩土工程学报, 2019, 41(8): 1435–1444. (EI)

(10) 夏才初, 李强, 吕志涛\*, 等. 各向均匀与单向冻结条件下饱和岩石冻胀变形特性对比试验研究[J]. 岩石力学与工程学报, 2018, 37(2): 274–281. (EI, 通讯作者)

#### 学术兼职:

《市政技术》青年编委