

## Papers about our DGT products

1. Ding SM, Xu D, Sun Q, Yin HB, Zhang CS. Measurement of Dissolved Reactive Phosphorus Using the Diffusive Gradients in Thin Films Technique with a High-Capacity Binding Phase. *Environmental Science & Technology*, 2010, 44(21): 8169-8174.
2. Ding SM, Jia F, Xu D, Sun, Q, Zhang L, Fan C, Zhang CS. High-Resolution, Two-Dimensional Measurement of Dissolved Reactive Phosphorus in Sediments Using the Diffusive Gradients in Thin Films Technique in Combination with a Routine Procedure. *Environmental Science & Technology*, 2011, 45(22): 9680-9686.
3. Xu D, Ding SM, Sun Q, Zhong J, Wu W, Jia F. Evaluation of in situ capping with clean soils to control phosphate release from sediments. *Science of the Total Environment*, 2012, 438(0): 334-341.
4. Ding SM, Sun Q, Xu D, Jia F, He X, Zhang CS. High-Resolution Simultaneous Measurements of Dissolved Reactive Phosphorus and Dissolved Sulfide: The First Observation of Their Simultaneous Release in Sediments. *Environmental Science & Technology*, 2012, 46(15): 8297-8304.
5. Bao LJ, Xu SP, Liang Y, Zeng EY. Development of a low-density polyethylene-containing passive sampler for measuring dissolved hydrophobic organic compounds in open waters. *Environmental Toxicology and Chemistry*, 2012, 31: 1012-1018.
6. Ding SM, Wang Y, Xu D, Zhu C and Zhang C. Gel-Based Coloration Technique for the Submillimeter-Scale Imaging of Labile Phosphorus in Sediments and Soils with Diffusive Gradients in Thin Films. *Environmental Science & Technology*, 2013, 47(14): 7821-7829.
7. Xu D, Chen Y, Ding SM, Sun Q, Wang Y and Zhang C. Diffusive Gradients in Thin Films Technique Equipped with a Mixed Binding Gel for Simultaneous Measurements of Dissolved Reactive Phosphorus and Dissolved Iron. *Environmental Science & Technology*, 2013, 47(18): 10477-10484.
8. Sun Q, Chen YF, Xu D, Wang Y, Ding SM. Investigation of potential interferences on the measurement of dissolved reactive phosphate using zirconium oxide-based DGT technique. *Journal of Environmental Sciences-China*, 2013, 25(8): 1592-1600.
9. Liu HH, Bao LJ, Zhang K, Xu SP, Wu FC, Zeng EY. Novel passive sampling device for measuring sediment-water diffusion fluxes of hydrophobic organic chemicals. *Environmental Science and Technology*, 2013, 47: 9866-9873.
10. Liu HH, Bao LJ, Feng WH, Xu SP, Wu FC, Zeng EY. A multi-section passive sampler for measuring sediment porewater profile of dichlorodiphenyltrichloroethane and its metabolites. *Analytical Chemistry*, 2013, 85: 7117-7124.
11. Zhang CS, Ding SM, Xu D, Tang, Y, Wong, MH. Bioavailability assessment of phosphorus

- and metals in soils and sediments: a review of diffusive gradients in thin films (DGT). *Environmental Monitoring and Assessment*, 2014, 186(11): 7367-7378.
12. Sun Q, Chen J, Zhang H, Ding SM, Li Z, Williams PN, Cheng H, Zhu YX, Wu LH, Zhang CS. Improved diffusive gradients in thin films (DGT) measurement of total dissolved inorganic arsenic in waters and soils using a hydrous zirconium oxide binding layer. *Analytical Chemistry*, 2014, 86(6): 3060-3067.
  13. Sun Q, Chen J, Ding SM, Yao Y, Chen YF. Comparison of diffusive gradients in thin film technique with traditional methods for evaluation of zinc bioavailability in soils. *Environmental Monitoring and Assessment*, 2014, 186(10): 6553-6564.
  14. Ding SM, Han C, Wang Y, Yao L, Wang YP, Xu D, Sun Q, Williams P N, Zhang CS. In situ, high-resolution imaging of labile phosphorus in sediments of a large eutrophic lake. *Water Research*, 2015, 74 (0): 100-109.
  15. Han C, Ding SM, Yao L, Shen QS, Zhu CG, Wang Y, Xu D. Dynamics of phosphorus-iron-sulfur at the sediment-water interface influenced by algae blooms decomposition. *Journal of Hazardous Materials*, 2015, 300: 329-337.
  16. Chen MS, Ding SM, Liu L, Xu D, Han C, Zhang CS. Iron-coupled inactivation of phosphorus in sediments by macrozoobenthos (*chironomid larvae*) bioturbation: Evidences from high-resolution dynamic measurements. *Environmental Pollution*, 2015, 204: 241-247.
  17. Sun Q, Zhang LP, Ding SM, Li C, Yang JY, Chen J, Wang, PF. Evaluation of the diffusive gradients in thin films technique using a mixed binding gel for measuring iron, phosphorus and arsenic in the environment. *Environmental Science-Processes & Impacts*, 2015, 17(3): 570-577.
  18. Yao Y, Sun Q, Wang C, Wang PF, Ding SM. Evaluation of organic amendment on the effect of cadmium bioavailability in contaminated soils using the DGT technique and traditional methods. *Environmental Science and Pollution Research*, 2015, 1-10.
  19. Wang JF, Chen JA, Ding SM, Luo J, Xu Y. Effects of temperature on phosphorus release in sediments of Hongfeng Lake, southwest China: an experimental study using diffusive gradients in thin-films (DGT) technique. *Environmental Earth Sciences*, 2015, 74(7): 5885–5894.
  20. Chen MS, Ding SM, Liu L, Xu Di, Gong MD, Tang H, Zhang CS. Kinetics of phosphorus release from sediments and its relationship with iron speciation influenced by the mussel (*Corbicula fluminea*) bioturbation. *Science of the Total Environment*, 2016, 542: 833–840.
  21. Chen MS, Ding SM, Liu L, Wang Y, Xing XG, Wang Dan, Gong MD, Zhang CS. Fine-scal bioturbation effects of tubificid worm (*Limnodrilus hoffmeisteri*) on the lability of phosphorous in sediments. *Environmental Pollution*, 2016, 219: 604-611.
  22. Ding SM, Wang Y, Wang D, Li YY, Gong MD, Zhang CS. In situ, high-resolution evidence for iron-coupled mobilization of phosphorus in sediment. *Scientific Reports*, 2016, 6: 24341.
  23. Ding SM, Xu D, Wang YP, Wang Y, Li Y, Gong MD, Zhang CS. Simultaneous measurements

- of eight oxyanions using high-capacity diffusive gradients in thin films (Zr-oxide DGT) with a high-efficiency elution procedure. *Environmental Science & Technology*, 2016, 50(14): 7572-7580.
24. Wang C, Yao Y, Wang PF, Hou J, Qian J, Yuan Y, Fan XL. In situ high-resolution evaluation of labile arsenic and mercury in sediment of a large shallow lake. *Science of The Total Environment*, 2016, 541: 83–91.
  25. Sun Q, Ding SM, Wang Y, Xu L, Wang D, Chen J, Zhang CS. In-situ characterization and assessment of arsenic mobility in lake sediments. *Environmental Pollution*, 2016, 214: 314–323.
  26. Yao Y, Wang C, Wang PF, Hou J, Wang T, Liu C, Yuan Y. In situ, high resolution ZrO-Chelex DGT for the investigation of iron-coupled inactivation of arsenic in sediments by macrozoobenthos bioturbation and hydrodynamic interactions. *Science of The Total Environment*, 2016, 562: 451-462.
  27. Gao YL, Tao Lianga, Shuhan Tiana, Wang LQ , Peter E. Holmc, Hans Christian Bruun Hansenc. High-resolution imaging of labile phosphorus and its relationship with iron redox state in lake sediments. *Environmental Pollution*, 2016, 219: 466-474.
  28. Sun QY, Sheng YQ, Yang J, Marcello Di Bonito, Robert J.G. Mortimer. Dynamic characteristics of sulfur, iron and phosphorus in coastal polluted sediments, north China. *Environmental Pollution*, 2016, 219: 588-595.
  29. Yao Y, Sun Q, Wang C, Wang PF, Miao LZ, Ding SM. The Combination of DGT Technique and Traditional Chemical Methods for Evaluation of Cadmium Bioavailability in Contaminated Soils with Organic Amendment. *International Journal of Environmental Research and Public Health*, 2016, 13(6): 595.
  30. Wang Y, Ding SM, Gong MD, Xu SW, Xu WM, Zhang CS. Diffusion characteristics of agarose hydrogel used in diffusive gradients in thin films for measurements of cations and anions. *Analytica Chimica Acta*, 2016, 945: 47-56.
  31. Wang JF, Chen JA, Ding SM, Guo J, Christopher D, Dai ZH, Yang H. Effects of seasonal hypoxia on the release of phosphorus from sediments in deep-water ecosystem: A case study in Hongfeng Reservoir, Southwest China. *Environmental Pollution* 2016,219: 858-865.
  32. Wang D, Gong MD, Li YY, Xu L, Wang Y, Jing R, Ding SM, Zhang CS. In Situ, High-Resolution Profiles of Labile Metals in Sediments of Lake Taihu. *International Journal of Environmental Research and Public Health*, 2016, 13 (9): 884.
  33. Feng Y, Wu CC, Bao LJ, Shi L, Song L, Zeng Eddy Y. Examination of factors dominating the sediment-water diffusion flux of DDT-related compounds measured by passive sampling in an urbanized estuarine bay. *Environmental Pollution*, 2016, 219: 866-872.
  34. Yao Y, Meng XZ, Wu CC, Bao LJ, Wang FC, Zeng EY. Tracking human footprints in Antarctica through passive sampling of polycyclic aromatic hydrocarbons in inland lakes. *Environmental Pollution*, 2016, 213: 412-419.

35. Chen MS, Ding SM, Zhang L, Li YY, Sun Q, Zhang CS. An investigation of the effects of elevated phosphorus in water on the release of heavy metals in sediments at a high resolution. *Science of the Total Environment*. 2017, 575: 330-337.
36. Wang Y, Ding SM, Shi L, Gong MD Xu SW. Zhang CS. Simultaneous measurements of cations and anions using diffusive gradients in thin films with a ZrO-Chelex mixed binding layer. *Analytica Chimica Acta*, 2017, 972:1-11.
37. Wang Y, Ding SM, Wang D, Sun Q, Lin J, Shi L, Chen MS, Zhang CS. Static layer: A key to immobilization of phosphorus in sediments amended with lanthanum modified bentonite (Phoslock®). *Chemical Engineering Journal*, 2017, 325: 49-58.
38. Lin J, Sun Q, Ding SM, Wang D, Wang Y, Tsang DCW. First observation of labile arsenic stratification in aluminum sulfate-amended sediments using high resolution Zr-oxide DGT. *Science of the Total Environment*, 2017a, 609: 304-310.
39. Lin J, Sun Q, Ding SM, Wang D, Wang Y, Tsang DCW. Mobile phosphorus stratification in sediments by aluminum immobilization. *Chemosphere*, 2017b, 186: 644-651.
40. Xu L, Sun Q, Ding SM, Gong MD, Zhang CS. Simultaneous measurements of arsenic and sulfide using diffusive gradients in thin films technique (DGT). *Environ. Geochem. Health*, 2017, 1-11.
41. Zhang LP, Sun Q, Ding SM, Chen X, Liu Q, Zhang CS. Characterization of arsenic availability in dry and flooded soils using sequential extraction and diffusive gradients in thin films (DGT) techniques, *Environmental Science and Pollution Research*, 2017, 24(18): 15727-15734.
42. Liu Q, Ding SM, Chen X, Sun Q, Chen MS, Zhang CS. Effects of temperature on phosphorus mobilization in sediments in microcosm experiment and in the field, *Applied Geochemistry*, 2018, 88, 158-166.
43. Chen X, Sun Q, Ding SM, Chen MS, Fan XF, Zhang LP, Zhang CS. Mobile Arsenic Distribution and Release Kinetics in Sediment Profiles under Varying pH Conditions, *Water Air Soil Pollut*, 2017, 228: 413.
44. Y Y, Huang CL, Wang JZ, Ni HG, Yang ZY, Huang ZY, Bao LJ, Zeng Eddy Y. Significance of Anthropogenic Factors to Freely Dissolved Polycyclic Aromatic Hydrocarbons in Freshwater of China. *Environmental Science and Technology* 2017, 51: 8304–8312.
45. Wang PF, Yao Y, Wang C, Hou J, Qian J, Miao LZ. Impact of macrozoobenthic bioturbation and wind fluctuation interactions on net methylmercury in freshwater lakes, *Water Research*, 2017, 124: 320-330.
46. Pan F, Liu HT, Guo ZR, Li ZW, Wang B, Gao AG. Geochemical behavior of phosphorus and iron in porewater in a mangrove tidal flat and associated phosphorus input into the ocean, *Continental Shelf Research*, 2017, <https://doi.org/10.1016/j.csr.2017.09.012>.

47. Ren MY, Wang Y, Ding SM, et al. Development of a new diffusive gradient in the thin film (DGT) method for the simultaneous measurement of  $\text{CH}_3\text{Hg}^+$  and  $\text{Hg}^{2+}$ . *New Journal of Chemistry*, 2018, 42(10), 7976-7983.
48. Yuan YM, Ding SM, Wang Y, et al. Simultaneous measurement of fifteen rare earth elements using diffusive gradients in thin films. *Analytica Chimica Acta*, 2018, 1031, 98-107.
49. Chen MS, Ding SM, Chen X, Sun Q, Fan XF, Lin J, Zhang CS. (2018). Mechanisms driving phosphorus release during algal blooms based on hourly changes in iron and phosphorus concentrations in sediments. *Water research*, 133, 153-164.
50. Jin Z, Ding S, Sun Q, et al. High resolution spatiotemporal sampling as a tool for comprehensive assessment of zinc mobility and pollution in sediments of a eutrophic lake. *Journal of Hazardous Materials*, 2018. Ding SM, et al., *Sci. Total Environ.*, 2018, 625, 872-884.
51. Ding S, Sun Q, Chen X, et al. Synergistic adsorption of phosphorus by iron in lanthanum modified bentonite (Phoslock®): New insight into sediment phosphorus immobilization. *Water research*, 2018, 134: 32-43.
52. Ding S, Chen M, Cui J, et al. Reactivation of phosphorus in sediments after calcium-rich mineral capping: Implication for revising the laboratory testing scheme for immobilization efficiency. *Chemical Engineering Journal*, 2018, 331: 720-728.
53. Meng Y, Ding S, Gong M, et al. Submillimeter-scale heterogeneity of labile phosphorus in sediments characterized by diffusive gradients in thin films and spatial analysis. *Chemosphere*, 2018, 194: 614-621.
54. Xing X, Ding S, Liu L, et al. Direct evidence for the enhanced acquisition of phosphorus in the rhizosphere of aquatic plants: A case study on *Vallisneria spiralis*. *Science of the Total Environment*, 2018, 616: 386-396.
55. Chen M, Cui J, Lin J, et al. Successful control of internal phosphorus loading after sediment dredging for 6 years: A field assessment using high-resolution sampling techniques. *Science of The Total Environment*, 2018, 616: 927-936.
56. Gao L, Gao B, Zhou Y, et al. Predicting remobilization characteristics of cobalt in riparian soils in the Miyun Reservoir prior to water retention. *Ecological Indicators*, 2017, 80:

- 196-203.
57. Sun H, Gao B, Gao L, et al. Assessing Cu remobilization in reservoir riparian soils prior to water impoundment using DGT and geochemical fractionation. *Geoderma*, 2018, 327: 55-62.
  58. Gao L, Gao B, Yin S, et al. Predicting Ni dynamic mobilization in reservoir riparian soils prior to water submergence using DGT and DIFS. *Chemosphere*, 2018, 195: 390-397.
  59. Gao B, Gao L, Xu D, et al. Assessment of Cr pollution in tributary sediment cores in the Three Gorges Reservoir combining geochemical baseline and in situ DGT. *Science of the Total Environment*, 2018, 628: 241-248.
  60. Xu Q, Gao L, Peng W, et al. Assessment of labile Zn in reservoir riparian soils using DGT, DIFS, and sequential extraction. *Ecotoxicology and environmental safety*, 2018, 160: 184-190.
  61. Gao L, Gao B, Peng W, et al. Assessing potential release tendency of As, Mo and W in the tributary sediments of the Three Gorges Reservoir, China. *Ecotoxicology and environmental safety*, 2018, 147: 342-348.
  62. Gao L, Gao B, Peng W, et al. Assessing potential release tendency of As, Mo and W in the tributary sediments of the Three Gorges Reservoir, China. *Ecotoxicology and environmental safety*, 2018, 147: 342-348.
  63. Liu J J, Diao Z H, Xu X R, et al. In situ arsenic speciation and the release kinetics in coastal sediments: A case study in Daya Bay, South China Sea. *Science of The Total Environment*, 2018.