



城市生活污水排水管道H₂S溢出特性的研究

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The study of characteristics of H₂S spilled out in sewers

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摘要 为控制城市生活污水排水管道中由厌氧微生物而产生的H₂S所引起的恶臭味,应首先对产生恶臭味的H₂S气体进行监测,了解污水排水系统H₂S的产生特性,对学生宿舍区、居民区和餐饮区中3个检查井的H₂S溢出浓度进行现场监测,其结果通过Boltzmann函数的拟合回归分析以及正态分布的p-p图预测,表明城市生活污水排水管道中H₂S的溢出与时间具有较大的相关性,随着时间的变化符合二项式时间曲线估计的回归;其溢出浓度近似服从于正态分布;在同一天里,随着流速增加,H₂S浓度越高;不同污水中H₂S的浓度明显不同.这些特性为城市污水排水管道中所产生的H₂S而引起的恶臭味的控制与治理提供依据.

关键词: 城市生活污水 H₂S溢出浓度 Boltzmann函数 回归方程 p-p图

Abstract: In order to control the odours caused by H₂S produced from anaerobic microorganism in sewers, measurement should be made firstly, and the characteristics of H₂S produced in sewers should be understood. In this paper, the concentration of H₂S in field manhole including dormitory, residential and mess hall was monitored. The results indicated that H₂S spilled from sewers had the characteristic of period, and subjected to quadratic curve estimation and normal distribution approximatively by fitting of Boltzmann function and analyzing of regression analysis. In the same day, with the flow velocity increasing, the concentration of H₂S was higher. Different H₂S concentration was engendered in different sewage. These characteristics could improve the foundation for controlling and administering the odours caused by H₂S in sewers.

Key words: odours concentration of H₂S Boltzmann function regression analysis P-P chart

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