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Nota di contenuto	Introduction -- Screening and identification of two efficient aerobic denitrifying bacterial strains -- Nitrogen removal characteristics and mechanism research of Pseudomonas stutzeri PCN-1 -- Application of Pseudomonas stutzeri PCN-1 in nitrogen oxides emission mitigation -- Nitrogen removal characteristics and application of Pseudomonas aeruginosa PCN-2 -- Conclusion and prospects.
Sommario/riassunto	This book systematically investigates the nitrogen removal characteristics of two screened aerobic denitrifying bacteria and their applications in nitrogen oxides emissions reduction. It reveals that Pseudomonas stutzeri PCN-1 possesses excellent capacity for aerobic nitrogen removal, regardless of whether nitrate, nitrite or N2O were taken as denitrification substrates. It also demonstrates that the rapid

N2O reduction is due to the coordinate expression of denitrification genes. Further, the book discusses the bioaugmentation experiments conducted in denitrifying SBR and a pilot-scale Carrousel oxidation ditch, which confirmed that the strain could significantly enhance denitrification performance, reduce N2O emission and improve system stability. The second strain, P.aeruginosa PCN-2 accumulated negligible NO during aerobic nitrate and nitrite removal and efficiently removed NO from flue gas. This study is of great significance for potential applications of aerobic denitrification in mitigating nitrogen oxides emissions from biological nitrogen removal systems.