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several parameters; 3.2.6. Choice of growth rate model
3.3. Mass balance models
3.4. Model parameter identification; 3.5. Example: Chlorella vulgaris culture; 3.5.1. Experimental set-up; 3.5.2. Modeling; 3.5.3. Parametric identification; 3.6. Conclusion; Chapter 4. Estimation of Biomass Concentration; 4.1. Generalities on estimation; 4.2. State of the art; 4.3. Kalman filter; 4.3.1. Principle; 4.3.2. Discrete Kalman filter; 4.3.3. Discrete extended Kalman filter; 4.3.4. Kalman filter settings; 4.3.5. Example; 4.4. Asymptotic observer; 4.4.1. Principle; 4.4.2. Example; 4.5. Interval observer; 4.5.1. Principle; 4.5.2. Example
4.6. Experimental validation on Chlorella vulgaris culture
4.7. Conclusion; Chapter 5. Bioprocess Control; 5.1. Determination of optimal operating conditions; 5.1.1. Optimal operating conditions; 5.1.2. Optimal set-point; 5.2. Generalities on control; 5.3. State of the art; 5.4. Generic Model Control; 5.4.1. Principle; 5.4.2. Advantages and disadvantages; 5.4.3. Example; 5.5. Input/output linearizing control; 5.5.1. Principle; 5.5.2. Advantages and disadvantages; 5.5.3. Example; 5.6. Nonlinear model predictive control; 5.6.1. Principle; 5.6.2. Nonlinear Model Predictive Control
5.6.3. Advantages and disadvantages
5.6.4. Example; 5.7. Application to Chlorella vulgaris cultures; 5.7.1. GMC law performance; 5.7.2. Performance of the predictive control law; 5.8. Conclusion; Conclusion; Bibliography; Index

Sommario/riassunto

Due to the consequences of global warming and significant greenhouse gas emissions, several ideas have been studied to reduce these emissions or to suggest solutions for pollutant removal. The most promising ideas are reduced consumption, waste recovery and waste treatment by biological systems. In this latter category, studies have demonstrated that the use of microalgae is a very promising solution for the biofixation of carbon dioxide. In fact, these microorganisms are able to offset high levels of CO₂ thanks to photosynthesis. Microalgae are also used in various fields (food industr

2. Record Nr.	UNINA9910778738403321
Autore	Ryden Kent C. <1959->
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Descrizione fisica	1 online resource (xvi, 326 pages) : illustrations, maps
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Sommario/riassunto	Any landscape has an unseen component: a subjective component of experience, memory, and narrative which people familiar with the place understand to be an integral part of its geography but which outsiders may not suspect the existence of-unless they listen and read carefully. This invisible landscape is made visible through stories, and these stories are the focus of this engrossing book. Traveling across the invisible landscape in which we imaginatively dwell, Kent Ryden-

himself a most careful listener and reader-asks the following questions. What categories of meaning
