
1. Reference corrections and clarifications

1.1 Incorrect heading of references section

The last heading Bibliography should correctly be entitled References since it contains an exact match and list of all sources cited throughout the thesis. Therefore, the term references is used instead of bibliography below.

1.2 Clarification of contributing publications

It should be noted that Section 1.4 Contributions (page 31–34) contains the publications on which the thesis have been based upon. Not all of these publications have been cited in the thesis and are therefore not part of the reference list (since only publications cited in the thesis are included in the reference list). For a greater transparency, the publications that have been essential for the thesis, but are not included in the reference list, are detailed here as well.

Paper III
This paper is not part of the references and I would like to make it explicit that Chapter 6 is based on Paper III (as referenced on page 32):


To clarify, the main work in Paper III was conducted by the first author, Dr. Jesús Zambrano, who was responsible for the study conception, execution of the data analysis, and drafting of the manuscript. My contribution was minor, see page 32.

Paper V
This paper is not part of the references and is contained in Chapter 2. In addition, Paper V has been published after the dissertation and should be referred to as:

**Paper VII**
The Paper VII is not part of the references and is contained in Chapter 8.

Samuelsson, O., Björk, A., and Carlsson, B. Monitoring diffuser fouling with grey-box modelling (submitted for publication)

*Conference publications*
The conference publications in Section 1.4 are not part of the references because they have not been cited in the thesis. The reason is that the conference publications have been extended to manuscripts suited for journal publication, which have instead been cited where appropriate.

1.4 Corrections of incomplete reference information

Some of the cited references in the bibliography are incomplete. The original incomplete references (red text) given in the thesis have here been corrected, as indicated with black text.


2. Technical corrections

2.1 Incorrect equation (4.6a-b)


“For any component with concentration $C$ and flow $Q$, the empirical expected mass flow $E[M]$ is given by

$$E[M] = \frac{1}{T} \int_0^T Q(t)C(t)dt.$$  \hfill (4.6a)

Equation (4.6a) can be approximated by its discrete time equivalent expression, with sampling time $T_s$, when sufficiently fast sampling is applied

$$\frac{1}{T} \int_{t=1}^T Q(t)C(t)dt \approx \frac{1}{K T_s} \sum_{k=1}^K Q(k)C(k) = \frac{1}{K T_s} \left( \sum_{k=1}^K Q(k) \sum_{n=1}^K C(n) + \sum_{n=1}^K (Q(k) - \bar{Q})(C(k) - \bar{C}) \right) = \frac{1}{K T_s} \sum_{k=1}^K \frac{Q(k)}{\Sigma_{n=1}^K Q(n)} \sum_{n=1}^K C(n)Q(k) \quad \text{(4.6b)}$$

where $k$ is an integer denoting discrete time and $\bar{Q}$ is the mean flow during $\{1, ..., T\}$. Note that the factor in the last term $\frac{\Sigma_{k=1}^K C(k)Q(k)}{\Sigma_{k=1}^K Q(k)}$ is the flow proportional mean concentration, which differs from the mean concentration $\frac{1}{K T_s} \sum_{k=1}^K C(k)$.”

Corrected equation and text

“For any component with concentration $C$ and flow $Q$, the mass flow $M$ is given by

$$M = \frac{1}{T-1} \int_{t=1}^T Q(t)C(t)dt.$$  \hfill (4.6a)

Equation (4.6a) can be approximated by its discrete time equivalent expression, with sampling time $T_s$, when sufficiently fast sampling is applied

$$\frac{1}{T-1} \int_{t=1}^T Q(t)C(t)dt \approx \frac{1}{K} \sum_{k=1}^K Q(k)C(k) = \frac{\Sigma_{k=1}^K Q(k)}{K} \frac{\Sigma_{k=1}^K C(k)Q(k)}{\Sigma_{k=1}^K Q(k)} = \bar{Q} \frac{\Sigma_{k=1}^K C(k)Q(k)}{\Sigma_{k=1}^K Q(k)}, \quad (4.6b)$$

where $k$ is an integer denoting discrete time and $\bar{Q}$ is the mean flow during $\{1, ..., K\}$. Note that the factor in the last term $\frac{\Sigma_{k=1}^K C(k)Q(k)}{\Sigma_{k=1}^K Q(k)}$ is the flow proportional mean concentration, which differs from the mean concentration $\frac{1}{K} \sum_{k=1}^K C(k)$, if not $Q(k) = \bar{Q}$.”
3. Language and format corrections

Page 44:
“for the \( n \) dynamic model simulation”,
should be
“for the \( n \)th dynamic model simulation”

Page 81, caption Table 4.2:
“nitrified nitrate”
should be
“nitrified ammonium”

Page 82:
“Mx is a set of linear constraints”
should be
“Mx is a set of linear and bi-linear constraints”

Page 174:
The last column in Table 7.2 is incomplete due to an insufficient page margin.

The complete last column should be

<table>
<thead>
<tr>
<th>Class (fault indication)</th>
</tr>
</thead>
<tbody>
<tr>
<td>( \beta RI_{SD} &lt; \epsilon_{AE} &lt; -\beta RI_{SD} )</td>
</tr>
<tr>
<td>( \gamma SD(t_{63,train}) &lt; \epsilon_{RT} &lt; -\gamma SD(t_{63,train}) )</td>
</tr>
<tr>
<td>( RT(DO_i)<em>{lim} &lt; t</em>{63, test} &lt; RT(DO_i)_{lim} )</td>
</tr>
<tr>
<td>( T^2 &gt; T_{crit}(\alpha) )</td>
</tr>
<tr>
<td>or</td>
</tr>
<tr>
<td>( SPE &gt; SPE_{crit}(\alpha) )</td>
</tr>
<tr>
<td>( \psi &gt; \psi_{crit}(\alpha) )</td>
</tr>
<tr>
<td>( BF &gt; BF_{crit} )</td>
</tr>
<tr>
<td>( LR &gt; LR_{crit} )</td>
</tr>
<tr>
<td>( GP_{mean} - \delta GP_{SD} &lt; IR_{test} &lt; GP_{mean} + \delta GP_{SD} )</td>
</tr>
</tbody>
</table>