

### **Page 33**

- Modify the first paragraph (12 lines) to: “In connection with the problem of localizing a single radiating source based on range measurements, in this chapter we explore special structure of the cost function of an unconstrained least squares (LS) formulation and show that it is well suited in a setting known as difference-of-convex-functions (DC) programming. In the literature, the DC programming is sometimes referred to as convex-concave procedure. Our focus in this chapter will be placed on the localization problem based on range measurements. We present an algorithm for solving the LS problem at hand based on a penalty convex-concave procedure (PCCP) [33] that accommodates infeasible initial points in solving a fairly large class of *nonconvex* constrained problems. Algorithmic details are provided to show that the PCCP-based formulation is tailored to the localization problem at hand. These include additional constraints that enforce the algorithms iteration path towards the LS solution, and several strategies to secure good initial points. Numerical results are presented to demonstrate that the proposed algorithm offers substantial performance improvement relative to some best known results from the literature.”
- In Sec. 3.1, line 2, change “through two steps” to “in two steps”.
- In Sec. 3.1, line 2, leave a blank space between “angulation” and “[44]”.

### **Page 34**

- 1 line above Eq. (3.2), change “Nonlinear” to “The nonlinear”.
- 1 line below Eq. (3.2), change “i.i.d. variables” to “i.i.d. random variables”.
- 2 lines below Eq. (3.2), change “NLLS” to “the NLLS”.
- 3 lines below Eq. (3.2), change “NLLS” to “the NLLS”.

### **Page 35**

- Line 3, change “In Chapter 2, Sec. 2.1” to “In Sec. 2.1 of the thesis”.
- Line 4, change “A large amount of” to “Many”.
- Lines 9-10, change “in Chapter 2, Sec. 2.1 and [47]” to “in [47] and Sec. 2.1 of the thesis”.
- Lines 10-12, change “received considerable interest is applying classical multidimensional scaling (MDS) algorithm or its modifications to the problem at hand [24, 25, 26, 27].” to “has received considerable interest applies classical multidimensional scaling (MDS) algorithm or its variants to the problem at hand [24, 25, 26, 27].”
- Lines 13-16, change “Multidimensional scaling is a field of study concerned with the search for a low dimensional space, in which points represent the objects of interest, such that the pairwise distances (or dissimilarities) between the points (objects) in such space match given values. MDS has” to “Multidimensional scaling is a field of study concerning the search of points in a low dimensional space that represent the objects of interest and the pairwise distances between the points (objects) (as measure of dissimilarities) match a set of given values. As such MDS has”.
- Line 17, change “Classical MDS is a subset of MDS” to “The classical MDS is a subset of MDS techniques”.

- In the last line of page 35 and first line of page 36, change “approximate version of  $\mathbf{D}$ , denoted  $\hat{\mathbf{D}}$  as” to “approximation of  $\mathbf{D}$  as”.

### **Page 36**

- Line 3, change “Decomposing the symmetric  $\hat{\mathbf{D}}$  using eigenvalue factorization” to “Because matrix  $\hat{\mathbf{D}}$  is symmetric, it admits the orthogonal eigen-decomposition”.

### **Page 37**

- Lines 2-4, change “Although these methods can be efficient in terms of complexity and generally work well, they can show poor performance in certain sensor deployments [37].” to “Although these methods work well in general and can be efficient in terms of complexity, they are found to produce poor performance in certain sensor deployments [37].”
- In the title of Sec. 3.2, change “to the” to “into a”.
- 2 lines above Eq. (3.3a), change “have the form” to “assume the form”.
- 2 lines above Eq. (3.3a), change “are described” to “can be found”.

### **Page 38**

- Lines -6, change “are as follows:” to “are given by”.

### **Page 41**

- Line 3, change “to accept infeasible initial points.” to “to accept infeasible initial points. In what follows, we reformulate our localization problem to fit it into the basic CCP framework. Bounds on squared measurement errors as well as penalty terms are then imposed, and a PCCP-based algorithm is developed for solving the problem.”
- 1 line above Eq. (3.6), delete “:”.
- 1 line above Eq. (3.7), change “is not” to “is obviously not”.
- 6 lines below Eq. (3.7), change “ $\partial g(\mathbf{x}_k)$  as” to “ $\partial g(\mathbf{x}_k)$ , as”.

### **Page 42**

- 4 lines above Eq. (3.8), change “as follows” to “as”.
- 2 lines above Eq. (3.8), change “It follows that” to “It follows that,”.
- 2 lines above Eq. (3.8), change “constant term” to “constant term,”.

### **Page 43**

- 1 line below Eq. (3.12b), change “procede” to “proceed”.
- 3 lines below Eq. (3.12b), change “defined by algorithmic parameters” to “determined by parameters”.
- 4 lines below Eq. (3.12b), change “The constraints” to “Note that the constraints”.
- 6 lines below Eq. (3.12b), change “see (3.4bb)” to “see (3.4b)”.

- 1 line above Eq. (3.13), change “see (3.5bb)” to “see (3.5b)”.

#### **Page 44**

- 2 line below Eq. (3.15d), change “(3.15ca)” to “(3.15a)”.

#### **Page 45**

- In the last line of the page. Remove “The algorithm can be now outlined as follows.” from item (iv) and put it in the next line.

#### **Page 46**

- In Sec. 3.3, line 3, fill the reference number in “[?]”.

#### **Page 47**

- 7 lines below Table 3.1, modify “using (1)” with an appropriate equation number.
- 12 lines below Table 3.1, fill the reference number in “[?]”.