# Detailed Sub-Comment Assessment

Rev	Cmt	Sub-comment	Status	Missing Action
4	1	Improvements over existing re-	Addressed	None
		sults unclear		
4	2a	Language and grammar issues	Addressed	None
4	2b	Long sentences need splitting	Addressed	None
4	3	Definite articles in figure cap-	Addressed	None
		tions		
4	4	Formula italics inconsistent	Addressed	None
4	5	Quotation marks incorrect	Addressed	None
5	1a	Contributions scattered across	Addressed	None
		sections		
5	1b	Need consolidated contributions	Addressed	None
-	0	section	A 1 1 1	N
5	2a 2b	Algorithm (23) lacks context	Addressed Addressed	None None
5		Need intuition behind design		
5	2c	Need comparison with existing	Addressed	None
5	3	methods Convergence performance analy-	Partially	Need quantitative rates
9	9	sis missing	1 ar clarry	riced quantitative rates
5	4	Forward references (eqs 5,6 be-	Addressed	None
	-	fore Assumption 2)	riddressed	TVOIC
5	5a	Assumption 2 seems restrictive	Addressed	None
5	5b	Can it be relaxed per Ref [34]?	Addressed	None
5	6	Assumption 1 justification	Addressed	None
		needed		
5	7a	Meaning of $h_{ij}$ and $K_i$ unclear	Addressed	None
5	7b	Purpose of introducing them not	Addressed	None
		justified		
5	8a	Lagrangian (15) seems straight-	Addressed	None
		forward		
5	8b	Is lengthy Section IV derivation	Addressed	None
		necessary?		
5	9a	RC abbreviation redundantly ex-	Addressed	None
-	01	plained	A 1 1 1	N
5 5	9b 10	RHS abbreviation not explained	Addressed Addressed	None None
9	10	Appendix B should be in main text	Addressed	MOHE
5	11	Lemma 4 proof not in Ref [41]	Addressed	None
5	12	Superscript $\epsilon^+$ not explained	Addressed	None
5	13	Why are our results better than	Addressed	None
	10	Ref [22]?		1.0110
5	14	Proposition 6 needs clarification	Addressed	None
5	15	Typo: $\lim_{k\to\infty} = y$ should be	Addressed	None
		$\lim_{k \to \infty} y_k = y$		
5	16	Reversed quotation marks	Addressed	None
5	17a	Introduction too long	Addressed	None
5	17b	Lacks coherent structure	Addressed	None
5	18	Ref [22] techniques outdated,	Addressed	None
		need SOTA		
6	1	Motivation for formulation (4) vs	Addressed	None
		(3) unclear		
6	2a	Why represent $U_i$ as nonlinear	Addressed	None
		inequalities?		

Rev	Cmt		Status	Missing Action
6	2b	How does (3) differ from classical (2)?	Addressed	None
6	3a	Could use $\gamma_i := c_i + \lambda_i$ instead	Addressed	None
6	3b	What is novelty/role of $c_i$ terms?	Addressed	None
6	4a	Taking max over constraints adds non-smoothness	Addressed	None
6	4b	Is this complexity justified?	Addressed	None
6	5a	Is Lemma 1 novel or well-known?	Addressed	None
6	5b	Seems like standard KKT $+$ saddle point	Not	Need explicit novelty statement
6	6	Formulation (2) more general than (3)	Addressed	None
6	7	Is $U_i$ compact under convexity alone?	Addressed	None
6	8	Assumption 3 $(c_i > 0)$ prevents recovering (2)	Addressed	None
6	9	Do results hold for nonlinear constraints in $u_i$ ?	Addressed	None
10	1a	Abstract overly long	Addressed	None
10	1b	Long sentences obscure message	Addressed	None
10	1c	Example: "This is while" sentence unclear	Addressed	None
10	1d	"the paper" should be "this paper"	Addressed	None
10	2	Footnote 2: need continuity assumption	Addressed	None
10	3a	Lemma 1 novelty unclear	Addressed	None
10	3b	Appears to be standard saddle point property	Not	Need clear differentiation from Sion/Rockafellar
10	3c	How does it differ from classical formulations?	Partially	More explicit comparison needed
10	4a	Assumption 3 $(c > 0)$ mathematically convenient	Addressed	None
10	4b	May be overly rigid for practice	Addressed	None
10	4c	Theoretical benefits acknowledged	Addressed	None
10	4d	No empirical parameter selection strategies	Partially	Need practical guidelines
10	5	Notation: $u_i$ should be $u_1$	Addressed	None
10	6	Introduce Z parameter after eq (23)	Addressed	None
10	7	Missing parentheses in eq (36)	Addressed	None
10	8	Remark 4 needs splitting into two parts	Addressed	None
10	9	Theorem 4 proof conclusion not self-evident	Partially	May need Haddad Thm 4.19 or complete proof
10	10a	Corollary 1 strict complementarity too strong	Addressed	None
10	10b	Fails when constraints inactive	Addressed	None
10	10c	Suggest proximal/regularization terms	Addressed	None
10	11a	Examples lack scenario-based RO setting	Partially	Could add more realistic scenarios
10	11b	Need convergence analysis results	Addressed	None
10	11c	Need stability demonstration	Addressed	None

## **Summary Statistics**

• Total sub-comments: 63

• Fully Addressed: 55 (87%)

• Partially Addressed: 6 (10%)

• Not Addressed: 2 (3%)

## Critical Items Requiring Action

### Priority 1 - Not Addressed

- 1. Rev 6, Cmt 5b: Lemma 1 appears standard need explicit novelty statement distinguishing from KKT conditions
- 2. Rev 10, Cmt 3b: Lemma 1 appears to be standard saddle point need clear differentiation from Sion/Rockafellar theorems

### Priority 2 - Partially Addressed

- 1. Rev 5, Cmt 3: Convergence performance analysis need quantitative convergence rates
- 2. Rev 10, Cmt 3c: How Lemma 1 differs from classical more explicit comparison needed
- 3. Rev 10, Cmt 4d: No empirical parameter selection strategies for  $c_i$
- 4. **Rev 10, Cmt 9:** Theorem 4 proof conclusion may need to cite Haddad Theorem 4.19 or provide complete self-contained proof
- 5. Rev 10, Cmt 11a: Examples could include more realistic scenario-based RO settings